DOCUMENT RESUME

ED 324 021 IR 053 299

AUTHOR	Harvey, Diane, Ed.
TITLE	Technology and the Future of Scholarly Exchange. Minutes of the Annual Meeting of the Association of Research Libraries (114th, Providence, Rhode Island, May 10-12, 1989).
INSTITUTION	Association of Research Libraries, Washington, D.C.
PUB DATE	90
NOTE	155p.; For the minutes of the 112th and 113th meetings, see ED 309 780 and ED 318 490.
AVAILABLE FROM	Association of Research Libraries, 1527 New Hampshire Ave., NW, Washington, DC 20036 ($40.00/year for ARL members, $60.00/year for all others).
PUB TYPE	Collected Works - Conference Proceedings (021) -- Viewpoints (120) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Academic Libraries; Higher Education; *Information Networks; *Information Technology; Library Administration; Library Associations; Library Expenditures; *Library Role; Mission Statements; Preservation; *Research Libraries; Research Opportunities; Serials; *Technological Advancement; Telecommunications; *User Needs (Information)
IDENTIFIERS	Association of Research Libraries; National Research and Education Network; *Scholarly Information Exchange

ABSTRACT

This membership meeting of the Association of Research Libraries (ARL) focused on the impact of the new information technologies on scholarly exchange. The program was organized into two sessions comprising 11 papers in all. In the first session, three influential leaders presented papers exploring different aspects of the conference topic. In the second session, participants gave brief descriptions of applications of technological innovations, following which the meeting broke up for concurrent sessions demonstrating these technologies. Papers in the first session are entitled: (1) "Introduction" (Charles Osburn); (2) "Meeting the Needs of Tomorrow's Scholars" (Stanley Katz); (3) "The Role of Research Libraries in the Emerging Telecommunications Network" (Kenneth King); and (4) "University Responses to New Information Technology" (Maurice Glicksman). Remarks in the second session are entitled: (5) "Introduction" (Merrily Taylor); (6) "Library of Congress American Memory Project" (Robert Zich); (7) "Brown University's Intermedia" (Karen Catlin); (8) "National Agricultural Library Text Digitizing Project" (Judy Zidar); (9) "NEXT Workstation" (Arif Diwan); (10) "CISTI Document Delivery System" (Peter Wolters); and (11) "Cuadra Star Database and Information Retrieval System" (Scott Armstrong). Proceedings of the ARL business meeting are then presented. The first session features comments on: the Serials Pricing Project (Susan Nutter, John Vaughn); a 5-year preservation program (George Farr); ACRL (Association of College and Research Libraries) standards for university libraries (Kent Hendrickson); the National Research and Education Network (Michael Roberts); the National Commission on Library and Information Science (Susan Martin); the American Council of Learned Societies (Douglas Greenberg); U.S. Department of Education (Ann Mathews); and the Library of Congress (Ellen Hahn). The report on the second session of the business meeting focuses on recent activities, membership, and financial aspects of ARL. Appendixes comprising about half the document include two task force reports and a report on association activities September 1988-April 1989. (SD)

ISSN 0044-9652

U.S. DEPARTMENT OF EDUCATION
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Minutes of the 114th Meeting

The Association of Research Libraries

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Technology and the Future of Scholarly Exchange

Minutes of the 114th Meeting

May 10–12, 1989
Providence, Rhode Island

1990
Association of Research Libraries
Washington, D.C.

The *Minutes of the Meetings* are published semiannually by the

Association of Research Libraries
1527 New Hampshire Avenue, N.W.
Washington, D.C. 20036

Price: ARL Members: $40.00 per year
All Others: $60.00 per year

Issues are also available individually.

Edited by Diane Harvey.

Series Editor: Nicola Daval
Program Officer
Association of Research Libraries

Association of Research Libraries
Minutes of the meeting. 1st-
Dec. 1932-
[Princeton, N.J., etc.]
v. 28 cm.

Meetings are numbered irregularly: 9th-10th, 12th called respectively: 10th-11th, 13th.
INDEXES:
Subject index.

1st-42d, Dec. 1932-Jan. 1954. 1 v.

Z673.A84 59-30046

Library of Congress [ ]

Printed in U.S.A. ISSN 0044-9652

∞ *The paper used in this publication meets the miniumum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.*

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ASSOCIATION OF RESEARCH LIBRARIES

114TH MEMBERSHIP MEETING

Providence, Rhode Island
May 10-12, 1989

TECHNOLOGY AND THE FUTURE OF SCHOLARLY EXCHANGE

Charles E. Miller, *Presiding*

Program Committee:	**Merrily Taylor**, *Brown University*
	Charles Osburn, *University of Alabama*
	Charles E. Miller, *Florida State University*
	Duane E. Webster, *ARL Staff, ex-officio*

FOREWORD

The wide availability and use of new information technologies for research and scholarship are expected to transform traditional channels of scholarly communication. The 114th Membership Meeting of the Association of Research Libraries focused on one dimension of this transformation—the future of scholarly exchange. The goal of the program was to understand how technology is affecting the process of research and teaching, in order to anticipate future information needs and expectations of users, and the challenges for universities and research libraries in responding to these needs.

In the first program session, "Technology and the Future of Scholarly Exchange," three influential leaders explored different aspects of the topic. Stanley Katz, President of the American Council of Learned Societies, explored the information needs of the scholar and how information technology and research libraries might responds to these needs. Kenneth King, President of EDUCOM, then discussed the needs and prospects for a national telecommunications network in support of education and research and the role of libraries in its development and operation. Maurice Glicksman, Provost of Brown University, addressed how universities may take advantage of the opportunities provided by new information technologies. Concurrent seminars followed the plenary session and provided directors and guests an opportunity for more extensive and informal discussion with the speakers.

In the second program session, "Applications of Technological Innovations in Scholarly Exchange," following introductory remarks, simultaneous demonstrations of several applications of information technologies illustrated some of the new capabilities available for users. The demonstrations included:

- Library of Congress American Memory Project
- Brown University's Intermedia
- National Agricultural Library Text Digitizing Project
- NEXT Workstation
- CISTI Document Delivery System
- National Security Archive Cuadra Star DAtabase and Information Retrieval System

Proceedings of the two sections of the ARL Business Meeting are also included in this volume. The first session featured reports from other organizations, as well as a report from the ARL Committee on Collection development on the Serials Pricing Study. Session II focused on the activities of the Association.

The 114th Meeting of the Association of Research Libraries was held at the Omni Biltmore Hotel in Providence, Rhode Island, May 10-12, 1990. Charles E. Miller, President of the Association, was the presiding officer. Members of the Program Committee for the meeting were Merrily Taylor, Librarian of Brown University; Charles Osburn, Director of Libraries at University of Alabama; Charles E. Miller, Director of Libraries at Florida State University; and Duane E. Webster, ARL Executive Director.

TECHNOLOGY AND THE FUTURE OF SCHOLARLY EXCHANGE

INTRODUCTION

Charles Osburn

Director of Libraries
University of Alabama

For at least a decade, especially since the publication of the American Council of Learned Society's *National Inquiry into Scholarly Communication*, our attention has been drawn intensively toward the exchange of scholarly information, and toward our own capacity to cope with the changes thrust rapidly on the management of our libraries. None of us can assume that we have mastered those challenges, yet it is clear we must look beyond our immediate internal concerns to the path ahead, with special attention to the changes that affect the motivation, methodologies, and substance of the work of our clientele.

This notion is reinforced by our knowledge that our clientele, along with their respective learned societies and our local academic administrators, is also beginning to manifest serious concerns about both the opportunities and the problems inherent in the current evolutionary stage of the scholarly communication system. In that connection, it is important to note that during this program we will be addressing not only the processes of research, but also the processes of teaching and learning. More than ever before, the quality of scholarly exchange of all kinds is becoming closely intertwined with and dependent upon the highest levels of administrative planning and policy establishment.

We are honored to have with us three individuals who are uniquely positioned to report on, and to help shape, the future influence of technology on scholarly exchange: Stanley Katz, President of the American Council of Learned Societies; Kenneth King, President of EDUCOM; and Maurice Glicksman, Provost of Brown University.

MEETING THE NEEDS OF TOMORROW'S SCHOLARS

Stanley Katz

President
American Council of Learned Societies

I want to talk about what the relation of scholars and libraries ought to be. I will begin with the materials on the ARL serials project that Duane sent to me because, of course, this is a concern for scholars as well as librarians. Although scholars do not initially pay the serials bill, we do pay it ultimately, and that is part of the problem. The question I had in working my way through these materials is that they do not really describe the problem of serials in research libraries, but rather the problem of *science*, *medical*, and *technological* serials in university libraries. One of the two reports is entirely on that subject, while the other report is mainly on science and technology, although—and for me this is the difficulty—the conclusions are made to appear more general.

For librarians the problem is the financial bottom line, and I respect that—it is a problem for scholars as well. Nevertheless, the situation in the humanities and social sciences is very different from that in the natural sciences and technology fields. I do not want to imply that there are no problems with serials in my field, for there are. Nevertheless, if you look at the average figures in the Okerson report[1], you will see that the fields with the lowest cost on the table are without exception in the humanities and social sciences. The bulk of the cost comes from the sciences and the extraordinary individual costs come almost entirely from those.

While there is a bottom line problem, the fact is that for most scholars in the humanities and, to some extent, in the social sciences, the "warehouse" notion of serial collections is absolutely critical. It is not an outmoded or old-fashioned notion for us, but a practical ideal. I understand the ideal isn't always practical. But, in the humanities, the notion that "everything" is in the library is the correct notion; and if "everything" cannot actually be there, then we need technological surrogates for it.

Indeed, I would argue that, contrary to one of the reports, the humanities and social sciences have responded in a quite creative way to changes, particularly intellectual changes in the direction of multi- and inter-disciplinary work. This results in new journals, but the new journals do not make the old journals outmoded or useless.

I will give you examples only from my own field. Currently I am working in legal history, but my favorite field was eighteenth century American history. Later I worked in constitutional history, but I also studied law, and now study the history of philanthropy. I have directed Ph.D. students in history, sociology, philosophy, and political science, in addition to SJD students in law school; I am not atypical of a great many scholars of my age and experience. I have been one of the editors of six scholarly journals: *The Journal of Inter-Disciplinary History, Reviews in*

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[1] Okerson, Ann, "Of Making Many Books There Is No End: Report on Serials Prices." In *Report of the ARL Serials Prices Project.* (Washington, D.C.: Association of Research Libraries, 1989).

American History, The Law and History Review, The American Bar Foundation Research Journal, The Law and Society Review, Continuity and Change and Consensus. None of these journals cover one field. They are each reasonably inexpensive, but if you cumulate them, they come to a lot of money; I understand that. Perhaps we can do without some of them. I am prepared to contemplate that, since I understand that we will have to make choices. The only pitch I would like to make to you is to think hard about how you are going to make those choices because they are significant intellectual as well as economics choices, and you will need a very sophisticated process in order to do that responsibly.

I am also quite concerned about some of the general conclusions in one of the reports about changes necessary in promotion and tenure procedures. I have two different comments about that. One is that, next to motherhood, nothing is more important to an academic than promotion and tenure; and nothing is more likely to be misunderstood and to anger academics than even thoughtful comments on that subject. I would urge you to think hard about any pronouncement on the subject, but in any case, I believe it is a problem that should be desegregated. My own position is that tenure is not a good idea—I would rather see long-term contracts in universities. That is not something I ordinarily say in public, and I certainly can tell you it is not a ACLS position. I do not need tenure, but many—most of the people in my world do—and we must consider them.

My second point is that the problem is not the proliferation of publications. The problem is the proliferation of knowledge; and that moves to a much larger point: the need for improved vehicles for scholarly communication. Charles Osburn, in his in introductory remarks referred to a now almost 15-year old project on scholarly communication, an inquiry that was launched by ACLS. The project was led from Washington by our Office of Scholarly Communication and Technology (OSCT), which I had the unhappy duty to end two years ago because we had run out of foundation funding. The focus of OSCT was technology, although, of course, other interests developed. The object of the project was to increase communication between librarians, scholars, and publishers. It seems to me, however, there are at least four distinct groups that need to be involved in this process: the three I just named—libraries, scholars, and publishers—and also university administrators.

My interest is to explore what ACLS can do in working with librarians toward a long-term approach to scholarly communication. It seems to me that librarians and scholars have basic interests in common, but that we too seldom talk about them. It is very easy for each group to get preoccupied up with problems of access, cost, acquisitions, and so forth, but as long as we understand that there are substantive points on both sides, dialogue ought to be possible. We too seldom, it seems to me, identify what the substantive problems are. We tend to look at the bottom line and work back from that; and that is not a good approach to policy analysis. Adequate analysis requires several things: greater mutual self-examination; greater exchanges of information; greater cooperation in substantive policy making, including, decisions about technology; and new approaches to university administrators, to publishers, and to the federal and state governments. There are a wide range of things we need to do and we need to do together.

The third point I want to make is that it seems to me that these problems can be looked at on two different levels. One is the micro level, the university level; and the other the macro level, the national or regional level.

At the university level, which is what we ordinarily talk about, we need to educate faculty. We have not done a very good job of that in ACLS and in other scholarly organizations. You, I believe, have not done a very good job, either. The single most useless institution I know in the universities in which I have worked is the library committee. I have yet to see one function well, and I have served on three library committees. They fail because they are not designed to educate the faculty about how libraries work. We need to either re-create those committees or create other institutions to provide actual interaction.

Next, I believe we need to involve faculty more in library management. Scholars do not understand how libraries work. Most of them do not care. They have got to be made to care if we are going to get the kind of support and cooperation we will need as libraries change.

We also need creativity to reorient the triad that ordinarily interacts in universities with respect to information: librarians, faculty, and administration. In effect, however, the system operates as a diad rather than a triad. The faculty must to become a part. We need constant dialogue among university librarians, faculty, and administrators. It is a mistake, on the part of librarians and university administrations, to exclude faculty, particularly as we enter a period in which the financial organization of universities must change fundamentally, and libraries are likely to be the first victims. You need friends, and we are your professional friends. You have always thought, I believe, that cozying up to the administration is the only to go. That probably has been the case, and maybe it will continue to be: But it may not, and I would urge you to think harder about other allies on your own campuses and about doing something institutionally to make those alliances strong.

The second level of discourse addresses the national or regional problem. It is obvious to all of us, that cooperation and interaction at an ever-increasing pace is the only possible solution to the problems that we now face, not only in libraries, but throughout universities. We can move information more easily, more cheaply now, and we are going to have to do it across the board. That means we must have much better vehicles for exchanging other kinds of information and managing that information. There has to be a fit between the development of cooperation in libraries and other information systems in universities as research and teaching institutions.

And, finally, we have to reconceptualize libraries. ACLS is operating under the assumption that we cannot think about libraries as warehouses anymore, although that is a function which still has support. The very term "library" is not a particularly useful one anymore. We are really talking about the creation, the retention, and the transmission of information. That includes, but certainly is not limited to, libraries as we have known them.

At the same time we must abandon the functional dichotomy between librarians and scholars which we have always used. Librarians will need to know much more about what scholars actually do, and scholars will need to know much more about what librarians and other information managers actually do. We will have to work these things out together. I certainly do not have the answer to any of these things: But I want to call attention to something that some of you already know—scholars have finally begun to find libraries, books, and publishing an interesting field of scholarly inquiry.

The real problem for us is the explosion of knowledge. We as scholars do not know how to cope with that issue. It is an intellectual, not just a managerial problem. We cannot read everything in our own fields anymore. The technology is not yet good enough in the humanities in particular to manage the databases we have, even those available in machine-readable form, because we have not worked out the intellectual approaches or the strategies for dealing with them. This is something which the disciplines, particularly the humanities, are just now turning to; and it seems to me a great opportunity.

Scholars need help in thinking about thinking. We have to retrain ourselves not so much to use your machines, which we can do, but how to use these new approaches in dealing with the increasing amount of knowledge that is available to us. We have to figure out how to cope with new knowledge by acting as information managers, and to some extent that is what you librarians are.

My plea to you is not to think of our mutual dilemmas as library problems; they are problems of knowledge in the twenty-first century. Do not think of yourselves as librarians or even as information managers, but as scholarly colleagues in the higher education community trying to work out how we are going to cope with the problems of knowledge in the next century. We at ACLS are troubled by this prospect, but at the same time excited by it; and we would like to work with you.

THE ROLE OF RESEARCH LIBRARIES IN THE EMERGING TELECOMMUNICATIONS NETWORK

Kenneth King

President
EDUCOM

Some years ago when I was at Columbia University, I walked into the basement of the Riverside Church one morning and I met Harry Emerson Fosdick, who was the minister there at that time, and he told me the following story. A few weeks earlier he had delivered one of his more mundane sermons. At the end of the sermon, an elderly parishioner walked up to him, pumped his hand furiously and said, "That was the most superfluous sermon I have ever heard." In an effort to recover, he said, "Madam, you're much too kind. It was delivered extemporaneously." She then said, "Well, I do hope you plan to publish it." He replied, "Perhaps posthumously," and he knew he was out gunned when she said, "Well, I do hope you publish it soon."

There are many people in this room who have been unindicted co-conspirators with computer people in trying to create the National Research and Education Network (NREN). For them, most of what I have to say will be superfluous; and I apologize.

The computing community, as one of its major activities for the next decade, is endeavoring to create a very high-speed network. The goals of that effort are to connect every scholar in the world to every other scholar; to connect to the network all information sources and instruments worth sharing; to build databases that are collaboratively and dynamically maintained, and that contain all that is known on a particular subject; and to create a knowledge management system on the network enabling scholars to navigate these resources in a standard, intuitive, and consistent way. In the process of developing these goals, we discovered that the road to success involves extensive collaboration with the library community. In fact, it was George Patton who once observed that in war, the secret is to get the other SOB to die for his country. We have been trying to give all of the really hard problems to the library people.

The reason we want to build this network is because we believe it will have a major impact on scholarship. The impact will be to enhance scholarly productivity by enlarging the scope of resources available to scholars to encompass the entire country, indeed the entire world, rather than be limited to resources at a particular institution. If that can happen, we hope many good things will happen to scholarship.

Bill Wolfe, who as Networking Director at the National Science Foundation is heading the NSF part of the effort to create the NREN, has as a goal to try to create something he calls the "collaboratory," in which services and facilities will help large-scale collaboration by the world science community. Scholars will be able to interact with a common body of dynamic knowledge, experimental instruments, and processors. I believe there will soon be a whole set of projects sponsored by the NSF to try to demonstrate the value of the "collaboratory."

If you look at the network mail, the amount of information on such hot topics as high-temperature superconductivity and cold fusion is enormous. The networks that exist today have become a major source for information exchange. From the perspective of the computing community, the network that demonstrated the importance of networking is BITNET. BITNET started with a connection between the City University of New York and Yale, and in seven years has spread around the world. There are BITNET institutions on almost every continent. There are more than a thousand institutions worldwide connected electronically. There are maps which show how Europe is connected everywhere. Africa is now connected as well as Saudi Arabia, Canada, and Asia. There are connections emerging in China.

BITNET is a low-speed network which supports electronic mail and messages. It has, however, inadequate capacity to support many other important things such as interactive access to library databases and connection to supercomputers. So, we have been busy building a network which we hope will have the necessary capacity, called the National Research and Education Network.

The current network, which is called NSFNET, will evolve into the NREN. NSFNET connects supercomputer centers and regional networks. There are about 15 regional networks connected to the backbone network which span most of the country, and there are about three hundred colleges and universities that are either now connected or will shortly be connected. The backbone of NSFNET runs currently at 1.5 million bits per second, and provides a set of computer capabilities allowing interaction with databases and experimental devices around the country. In fact, there are now several connections to Europe, and the Europeans are also building a high-speed network. The Japanese have even more ambitious plans, and expectations are that this network will be global, just as BITNET is, within a very short time.

The plan for the NREN is to evolve the current 1.5 megabit per second network to a 45 million bit per second network between 1991 and 1992. If we can get enough federal support, we should start now to do research and development and install experimental networks with the goal of getting networks to run at three billion bits per second by the year 2000. Networks with that kind of capacity are necessary to transmit video information, image information, and sound information. We want this network to carry multimedia information, and that is why we need that kind of capacity.

The important thing about this direction is that we hope all of the campuses will be connected to a network. Scholars will have microcomputers or work stations in their offices and in their homes, and they will want to get access to library resources in electronic form—catalogs, text, databases; and to information on course schedules, and college events. Many libraries have an electronic "back door." And, in fact, there are a fair number of libraries that are currently on the network. They do not usually require their own patrons to have a password to access the library—that would be uncivilized! As a consequence, there are a growing number of people who know how to access many of the libraries in the United States electronically.

The role that the computer community is willing to play in creating this network is to accept responsibility for connectivity, for managing and maintaining the physical piece of the network, and for implementing the hardware, software, and networking protocols. They are not willing to take sole responsibility, you will see, for designing those protocols; and they are willing to support scholars in achieving connectivity and solving hardware, software, and networking problems.

The role which we hope the library community will accept is responsibility for collecting, preserving, organizing, presenting, and managing scholarly information regardless of format. That includes computer software, full text of journals, video information, sound information, and multimedia information. Responsibility for any information that might be called scholarly we believe belongs to that group of people who understand how to deal with that kind of knowledge.

The protocol design of the network management system that will permit scholars to access information resources in a standard, consistent, and intuitive manner is another responsibility of the library community. The vision we have is that the local library system will be the scholar's window onto the information resources of the world. It will become, in effect, a virtual library because to the scholar, the library resources of the institution will appear to be extended by virtue of access to library resources all over the world in a transparent way. In order to get at this information wherever it is in the world, there must be a network knowledge management system that allows scholars to get at this information; and the library community is the ideal community to design that system. Of course, you will also have to connect your libraries and bibliographic resources to the network and assume responsibility for supporting scholarly access to network information resources.

Looking ahead, we have now on scholars' desks, more or less universally, computers that execute a million instructions per second, and what they do primarily is word processing. Sometime before the year 2000, at the current rate of technological development, the average computer on scholars' desks will run at a hundred million instructions per second; and at that speed you get control of pictures and sound. You can edit sound, you can use sound and pictures and words and numbers in a common text. By the year 2010, at the current pace of technological development, we will have the gipper, capable of executing a billion instructions per second. At that speed you get voice recognition and machine vision, so that you can have voice-operated typewriters. At 10-12 instructions per second the scientific community will be able to simulate complex physical systems directly from the fundamental equation of nature. At the current rate of development, that will be available about the middle of the next century.

Now, what are these capabilities starting to enable? Those of you who took the tour of the Brown University Computer Center yesterday saw the beginning of some of these capabilities in the language laboratory. They have video and sound manipulation capabilities, multimedia manipulation capabilities; the ability to interact with information in multi-dimensional and multimedia formats with a whole set of new programming technology that is beginning to emerge. It will allow people to build programs out of interconnected modules. You will then have the capability to start to build knowledge on a new platform consisting of images, sounds, numbers, and text.

Books form a relatively static base on which to build knowledge. The expectation is that people will now be able to build knowledge on a dynamic base; and in fact, there are some early examples of materials involving fully indexed books, pictures, and sound that people can manipulate and cut and paste and use to create new information.

In order to do this, we need this high-speed network. We need to develop standards that define the structure of this dynamic information, and we need someone to take responsibility for it. I hope I am looking at the people who are willing to do that. We need to develop the technologies for processing and displaying dynamic information. The technology community is, in fact, doing that; and we need to develop software systems that allow people who are not programmers to build programs that manipulate this kind of data. These programs should allow the same kind of facilities with pictures and sound and multimedia information the people now have with words and numbers. The last piece, again, is the development of a knowledge management system that enables scholars to locate and retrieve information which is globally distributed.

We are moving from a situation in which the library and computer services were separate little suns with their own circles of users and concerns to one in which the scholar is the center of the universe and the library and computing communities are working together to create a uniform information interface for the scholar. Those who took the tour yesterday, heard Brian Hawkins comment that the technology plan at Brown was a plan created jointly by the library and computer services. That is beginning to happen everywhere.

With respect to networking, there are a lot of people from the library community who are involved in this effort. EDUCOM has a book in press now called *Campus Strategies for Libraries and Electronic Information.*[1] This book, which has university librarians writing about their plans for developing their libraries, should be out sometime in the early fall of 1989.

The EDUCOM Networking and Telecommunications Task Force met with the Library of Congress Network Advisory Committee recently. The meeting represented an increasingly common occurrence, in which the person responsible for computer services on a campus and the person responsible for libraries show up together. It is the beginning of a cooperative effort to develop these capabilities that are, in fact, emerging.

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[1] Arms, Caroline, ed. *Campus Strategies for Libraries and Electronic Information.* (EDUCOM Strategies Series on Information Technology) ([Princeton, N.J.: Digital Press, 1990]).

UNIVERSITY RESPONSES TO NEW INFORMATION TECHNOLOGY

Maurice Glicksman

Provost
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It is a pleasure for me to be here speaking to the Association of Research Libraries, of which Brown is a long-time member. My talk will look at the role of libraries, and then focus on the university and information technology generally.

The university has in its mission three major challenges: first, the creation of new knowledge; second, the communication of that knowledge to others through teaching and publishing; and third, the conservation of that knowledge for the use of others in the present and the future. Libraries play an important role in facilitating the first and participating in the second and the third parts of the mission. In all of this, information has a key role to play. In fact, information is vital to the operations of the university. We at the university thus must pay close attention to the way information is provided, manipulated, and stored since it is so important to all of us.

This morning I want to discuss the role of information technology in furthering and affecting the operational mission of the university, concentrating on three topics I believe are important. First, what is information technology doing to the style of work of the members of the university community—the scholars, who are also called faculty, students, and staff of the university? Second, how has such technology affected the teaching and research programs in the university? Third, what are the costs of this new information technology and do the benefits justify those costs? Finally, I want to share some dreams and hopes for the future with regard to the use of information technology in the scholarly community.

If we want to discuss information technology, we first should agree what it is and what is new about it. I believe we begin in agreement as to what information is. If the information is new, it adds to a person's knowledge about a particular subject, concept, person, or group. Technology affects the acquisition and storage of information, as well as the means of transferring it.

We also know that in addition to text and graphics, information may be contained in video and audio signals, in data stored on paper or other relatively flat surfaces or in code form in devices that use magnetic, electronic, or optical approaches to write and read the information. Information may also be in two or three dimensional coded or unmodified materials, (which is sometimes also called "the oral tradition," but in any case is a form of information). You can probably come up with many other examples of information in non-traditional formats.

What is the new information technology? New is a description which implies uniqueness of recent origin or recent rediscovery. Writing was "new" in Japan in the sixth century A.D. and perhaps "new" to North American Indians in the fifteenth century A.D., although it was old to Egyptians in the thirtieth century B.C. Today, the relative regional isolation that led to such great variances in the time at which new technologies appeared is essentially gone; the new information technology itself plays an important role in the rapid dissemination of technology today. I think of the new information technology as both the devices involved and the software for the manipulation, storage, and transmission of information. To some, these substitute magnetic, electronic, or optical formats for the symbols on sheets of paper, which have been predominant for five centuries in the West and over eighteen centuries in China. But the new technology is also an amplification of functions, with the processing and organizing of the information constantly changing.

Will the new technology result in a complete conversion of information format from the old to the new? Handwriting has not disappeared as a result of the printing press or typewriter, because the tools for handwriting are simpler than the press and the typewriter. The change is also not sufficiently fundamental. Reproducibility of symbols by machine is done a little better than by the individual handwriter, but the result is an improved, not a new, function. With computing tools, however, changes of a more fundamental type can and do appear.

The new information technology is not confined to the word processor and the text handled by it. The new information technology includes communication links to people and to stored information in the form of text and images. It includes the ability to carry around hundreds of millions of words in a thin briefcase today, and probably in your jacket pocket or small purse in several years. It includes the ability to carry out clerical functions in the university with tools that are simple to use and able to give answers quickly. It includes the ability to manipulate large quantities of data, to do calculations or control machinery and experimental equipment at immense speed. It has enabled faculty to develop new kinds of courses that have shown promise of educational achievement. And it is enabling the staff, faculty, and students to be assisted in the tasks of the daily research and teaching and in serving the community's needs for information.

Now, how has this new information technology been affecting the functioning of the university and its people? First, change in style. The earliest beneficiaries of the new information technology were the scientists, who decades ago incorporated symbol manipulation by computers in the analysis of their data and then in the control of their experiments. Today, numerical techniques have become accessible to the mathematician, the theoretical physicist, and the theoretical chemist. The same tools have extended the geologist's and biologist's horizons.

I can give you examples from my own experience. In 1953 I used a computer to carry out a multi-dimensional analysis that was not feasible analytically with pencil and paper. In 1983 I used a work station for one week to do graphic and accurate numerical analysis on some experiments, which would have otherwise occupied me for the entire semester in approximate analyses. In between those periods, I have used computers to operate equipment, to analyze measurement data, and to solve complex integral-differential equations.

What is even more exciting is the use of the new information technology by historians and literary scholars in their research, as noted by Stan Katz. Computers can manipulate textual data as well as numerical data. The corpus of an individual's work, the complete run of a journal in the modern period, or even the written records of an entire society can be scanned for unusual language use, for combinations of phrases that denote certain ideas, for the introduction of certain philosophical concepts, for evidence of certain events and the time of their appearance, for reference to individuals and their connections with other individuals–I can go on and on with examples where scholars have made excellent use of this technology.

For all the scholars (students, faculty, and staff), the new information technology has allowed rapid access to bibliographic data and the power to seek connections among them. This has changed the "library search" from a chore, poring over catalogs, journal articles, and book references (which I did, incidentally, at MIT six years ago when I was there on a sabbatical leave) to a simple set of commands to a computer link to a large bibliographic database, with the computer then searching for and selecting those items which the researcher seeks. This technology enables the researchers to sharpen or broaden the search, and allows the search itself to govern the process.

Stan Katz talked about the proliferation of knowledge, and Ken King talked about the major increase in availability of that knowledge for everybody. Neither of them, of course, talked about how to manage that tremendous flood of knowledge. What we need is technology to manage in an efficient way what we want to get out of that system, and the management —essentially the management of information—is a key responsibility that I believe librarians could help with a great deal.

Resources to support the research of faculty and students are given a high priority on a university campus, and the new information technology is becoming an expected adjunct for the individual. Years ago new faculty used to come in and bargain with some interest for computers as desirable items—I am talking about faculty in English and history as well as in sciences. Now computers are a "given." If we did not provide computers, local and campus-wide networks, and easy access to bibliographic utilities for the English professor, we would be considered backward. For the science faculty, we must include larger computers and access to supercomputers. In what I have said so far, I have omitted reference to the ubiquitous use of new information technology in writing. Almost all memoranda from faculty or staff are produced on word processors, as are the term papers of our students. But the computer is not only a replacement for typewriting or handwriting. Ease of manipulation of words and phrases—editing and reorganization of text, trying out of various combinations of phrases and sentences, experimenting with different text formats—all lead to greater persistence of effort and more extensive review of the product by its author.

In the teaching phase, there is much better interaction between instructor and student; the results are improved operations, usually taking less time for the writer. For example, in my own case, aside from the improved writing (someone told me anything would be an improvement), I believe there has been a marked increase in efficiency. A tangible result is the fact that before I started using word processors, I had two secretaries who spent one-and-a-half person's time, working on correspondence in my office. Now it is a quarter of the time of my one full-time secretary. As far as I can tell, the amount of time I spend has not changed at all, but that may change as technology changes in the future.

Our personal style of work has changed, too. When I want to communicate with my colleagues, I have three choices of form or mode: (1) voice communication in person or by telephone, including answering machines or by audio tape; (2) text communication by methods such as mail, telegraph, fax, or electronic mail over computer networks; and (3) video communication through video cassettes or direct video transmission by telephone wires or cables. Twenty years ago we had mail, telegraph, and telephone. Today we have fax and electronic mail, but telephone is the final step when all else has failed. Incidentally, I still find the telephone the best method for local interaction, but electronic mail is best for contact with those in other time zones (as long as they read and answer it).

Another major change in style of work is in the use of the library. The changes are fundamental both in the varieties of media available in the libraries, and in the changed methods of delivery of information to the users. If we go back a thousand years, libraries in the West contained mostly written manuscripts. In other countries, such as China, they also contained printed scrolls and books. If we go back a hundred years, libraries contained only printed books and manuscripts. Today our libraries contain books, manuscripts, photographic copies of textual graphics and art forms, microforms of textual graphics, audio records, audio/video tapes, magnetic disks, a variety of optical disks, and perhaps other items. The means of maintaining such a variety of forms are a challenge.

Libraries also provide bibliographic information about their materials, and access to information kept elsewhere. Many university research libraries now provide this information in electronic format, and a growing number of them support services that enable the user to search some or all of the accessible bibliographies from remote locations outside the library. For example, I do this from my home in the evening, and many students can also do this from either the dormitory or other locations around the campus. As a result, the bibliographic resources of the library are available essentially 24 hours a day because the computer works 24 hours a day. One result of this is perhaps a more frequent querying of the library, but perhaps less frequent visiting, although the number of items borrowed may increase. It does mean improved efficiency in searching for material, though it could mean less in-person browsing. I would regret it if serendipity fell off; but actually with the sophisticated electronic, online catalog, users interested in very broad areas should actually be able to enhance their browsing once they master the entry to that catalog.

Let me turn to the question of teaching, an important point that has not been much discussed as yet. A much touted advantage of the new information technology was to be the "revolution in the classroom." There have been major changes; but if it is a revolution, it is developing rather slowly. The inertia of the educational system is high, particularly at the university level. University administrators are generally eager to investigate possible changes in the classroom and in teaching, especially if they can improve the quality of teaching and not increase the cost. Faculty support this interest, especially the first goal of improved quality. Much attention has thus been paid to the use of new information technology in teaching, and Brown has not been lacking in its interest.

As you saw last night, we have been using the newest Brown computer classroom located in a new building, the Center for Information Technology. Here students can work during scheduled class hours and at other times as well, with computers that have access to and can manipulate units of the material related to the course they are taking. This is one response that is taking advantage of the computer to provide different, demonstrably better educational opportunities. In another part of the same building, you will have found a language teaching laboratory replete with new information technology. Audio tapes have been an important part of language teaching for a number of years. They are now being supplemented by computer-controlled video and audio material, which transport the students into the foreign cultural and linguistic environment for practice and response.

Applications of the new information technology to teaching are still being explored with "courseware" an accepted word in our English lexicon. My own view is that much courseware may only be useful to the faculty and students in one particular course at the time is first offered and perhaps repeated. As an instructor, I do not teach the same course in an identical fashion each time it is offered, and this is also true for many of my colleagues.

The answer, I believe, is the development of software or courseware tools that can be used by the individual instructor and her or his students within the course syllabus. For example, modules (e.g., showing the approach to steady state for an ensemble in statistical mechanics, or the flight of rockets) can be very useful to the instructor who is otherwise presenting a normal lecture course. The technology should be used only when it enhances an instructional program or makes feasible a different kind of program.

I want to bring to your attention one of the programs, which we call Intermedia, that was developed by Brown at our Institute of Research in Information and Scholarship. Intermedia provides a software environment that encourages the user to make multiple contingent connections among may different kinds of data, including those in other media, such as audio tapes and optical disks. The ability to blaze trails among may different kinds and large quantities of data is useful in doing scholarly research. A number of software application in teaching can draw heavily on the resources of the library. There will be more connecting to the libraries in an electronic mode as libraries improve their accessibility to course materials, whether located on the campus or at some geographically remote, but electronically close, sites. I believe very strongly that technology cannot be forced. Its use must be a natural outgrowth of the needs perceived by faculty and students.

As a Provost, I cannot conclude this discussion without raising the question of the costs and the benefits of the new information technology. Practically none of the new information technology is simply a substitution of a new way for the old. Instead, we have used it to broaden the scope and function of our endeavors, or it has enabled us to do something hitherto not possible. And in the end, a much larger scope, a broadened functionality, and accelerated processing will cost more in dollars.

Let me illustrate this with several examples. An online catalog is generally not a one-for-one replacement for a card catalog, although it could be. For example, you could restrict the catalog to being a representation of cards, accessible only to the library with no sorting or word searching allowed. That would be a replacement for our old card catalogs, but for very little more money, you could get access from every office, dorm room, and study. You can do key word and Boolean searches. You can do sorting and resorting of the bibliographic records. You can print out the copies of each. You can get information on charging and ordering, and so on. These do cost a little more, but their benefits are seen as much greater than the incremental cost of putting those "bells and whistles," as you might call them, on the electronic card catalog.

A computer-controlled experiment could be a speeded up copy of the steps taken by the scientists involved in a manually controlled experiment; but it is also possible for the computer--at little extra cost—to continually monitor the experimental results, analyze the data, compare those data with preset conditions, and modify the experiment in the process. This is a little more costly, but again, the benefits will be judged quite high. For example, you might save redoing an experiment a number of times.

This increased functionality is what makes so difficult the financial analyst's attempt to judge the cost/benefit merits of new information technology. Ignoring the added benefits means viewing a stripped down technology, without expanded functionality, which would lead to difficulty in judging its utility at all. For example, courseware that consists of using a computer to turn pages in a book is a waste of time and money. But the computer's expanded capability makes it possible for the class to cover twice the material at the same time or move to advanced work a semester sooner, the savings over time can be calculated as very substantial.

Unfortunately for the university, most of these costs are not recoverable to the institution. If we increase the informational content of four years of college by twenty-five percent, the students benefit by this amount, but we cannot charge twenty-five percent higher tuition than colleges which are still using the 1960s technology. If we can say their education should take only three years and the annual tuition is fifteen to twenty percent higher than the competition, we might (with difficulty) gain the economic advantage of that technology. But it would be hard to persuade faculty, the parents, and the students. Many would still believe that a college education is four years of study, independent of the content of that education. I believe therefore that our universities will find it very difficult to reap the rewards of such improved conditions in quality. Particularly in the case of teaching, I doubt our ability to recover the added costs.

This is not the case with research. Much of the research carried out in the experimental sciences and in quantitative social science today is possible only because of new information technology. The costs are not only recoverable, but the savings are also *obvious* in many cases. Since, however, these savings are not realized by the university (because the research is being supported very heavily by government or private sources outside the university) there is a competitive advantage to the university, but not a profit. The use of the new technology is part of the cost of doing business, and in external research this can be recovered.

In another area, however, the cost savings are real and are realized by the university; this is where major savings are the result of cooperation made possible by the new information technology. In this case, they really are savings. One example is in bibliographic control, where the cost for each research library to do all of the original cataloging for each of its holdings would use up its resources very quickly. Another example is in interlibrary loan, made feasible by both the availability of knowledge of holdings, and the ever-quickening response time of the electronic communication network. A third example is the common availability of databases, with the cost of connection and maintenance shared by all of the users. These and other changes have been very well justified.

The automation of the local system should well be justified in the same way if we were not tempted to add so many functions to it. On our campus, because of network connectivity, the online catalog is, among other things, a replacement for a full catalog in everybody's office (at an unthinkable cost for a manual system). However, it does so many things a manual system cannot and will never be able to do. And it also ends up costing more in capital investment and operation. But once in place, I predict that its cost will continue to be acceptable since its functionality makes it a hit with the users. This increased functionality, useful as it is, continues to make the budget balancers at universities cry out with pain. We keep doing more and better at higher cost, but we cannot charge more for our services. Something else ends up being reduced, of course.

Before I get off the question of the cost, I should also note that all of us at the university have tremendous investments in the new information technology we have on campus. We have multi-million dollar investments in telecommunication facilities, networks on and off campus, thousands of work stations, and many mid-size and large computers, as well as supercomputers. This is a large investment and requires attention in the capital budget planning of the universities. But I also believe that, although good maintenance is required, upgrading is best done *only* when major new functions are needed which require the new technology. The "automatic" trade-in for this year's new model is not a sound idea since we do not have the resources, and faculty and staff do not have the need. I believe this is recognized by the manufacturers of computer and other information technology. Universities are not the targets for most of their new models.

Let me close by talking about the future that is almost, if not quite, here. Information technology has greatly enhanced the sharing of information resources. I firmly believe that sharing is the only way we can carry out our responsibility to serve as the conservator of information in the face of the major explosion in volume that continues unabated.

As a key information industry—we are involved in the creation, communication, and conservation of information—universities have to be at the forefront of changes in the development and handling of information. We all know that our libraries will contain more of what are now called nontraditional forms of information storage. A greater challenge is that the libraries will need to deal with a large variety of such forms, and provide almost instant availability of that information to their clients: the faculty, students, and staff of the universities. There should be an increasing use of universities by "nonresidents," particularly as the technology makes that easy and at small additional cost. A number of universities have ambitious programs providing educational opportunities to alumni and others. Including accessibility to information resources such as the library is a natural part of what would be expected.

I also expect to be pleasantly surprised by the miracles of technology. For example, I would like to carry my books around on a thin card and I want to be able to read them easily. Storing them in the library in this form will also take a lot less space, and libraries should be conservative in planning expansion in material storage space for future acquisitions. I would not want to carry around a whole library, but be able to borrow "books" electronically, and in a few seconds either discard them or store them in my own library without paying the necessary fee or royalty.

We could go on dreaming, and these dreams are out far from realization. As librarians, you need to be prepared to pay the cost of these additions to our tools for using technology. The library *is* our tool for using technology. I believe that the emphasis should be on investing resources in the sharing of information rather than in the storing of the same information as all of our peer institutions. The response of universities to the new information technology is just that message: resources are inadequate for duplicate production and local conservation of all the information need by our users. Resources will provide more of that needed information when the technology facilitates rapid access by all of our users to our pooled stores of information.

Our investment has to be in that sharing and in the development of the technological support for such sharing. We will all share in that benefit and must turn our efforts to facilitate the change. I want to congratulate the research librarians for the role they have been playing in these efforts. With your help, we will all learn how to benefit from the new information technology.

DISCUSSION

A Member: I would like to ask Mr. Katz to expand on a point he made in his paper. You were kind enough to share your candid views on the issue of promotion and tenure. The Okerson report makes the point that we librarians should raise this issue. You seem to be suggesting that librarians should not raise this political issue. I would like you to expand on that in terms of why not; and if librarians do not, in what forum will this issue be raised as it relates to the explosion of published information?

Mr. Katz: This is obviously an issue that had been on the educational agenda for some time now without very much progress being made, although there are now and have been for twenty years institutions that have moved away from tenure as a principle vehicle for faculty retention and security. Major institutions, however. have not done that. There is no objection to librarians as a group saying anything they have an opinion on. On the other hand, I do not believe it is very smart to have strong public positions that are not carefully thought through and that are likely to evoke a hostile response. If you conclude in the end that this is central to what you want, then you want to take a strong opinion on it.

Frankly, I do not believe there is the imminent likelihood of major changes in the promotion and tenure system in American universities. I wish I did believe that, but I do not. This effort would not be terribly productive and would quite likely be counterproductive. The reasons are obvious. You are talking only about one piece that contributes to the proliferation of scholarship. Brown University has said if we are, in fact, to value teaching more than promotion and tenure, how do we go about doing that? We will see what Maurice says, but my own personal belief is that is the hard issue, the one the universities are likely to focus on in the next period of time. There will be good and bad reasons for not approaching the other one.

The point is, what is the surrogate for publication? If we value research that research ought to be the major component of selection or retention of faculty. Do we have a proxy we can use? I think not. Now, can we improve the system for it? The Okerson report mentions quite sensibly there may be other approaches to the evaluation of scholarship. In good universities there are very few that say, "If you don't have ten pounds of publications, you don't get tenure." There are qualitative judgments being made—not ones I always agree with, but I believe there are honest attempts being made.

One suggestion is you do not have to look at all of the publications. The best ones are the ones that get evaluated. What is involved is the selection of completed research. Now, there are probably fields in which less than ten publications would be sufficient to evaluate scholarship. In my field, on the whole, I think there are not.

Mr. Glicksman: I agree with Stan about one part of what he said, which is that the scholar who has confidence in herself or himself does not need tenure in order to continue to generate scholarly work. But that person needs tenure for two other very important reasons, and therefore, I am a supporter of tenure. The two reasons are: 1) the right and the ability to speak out and not fear reprimand from his or her peers in the department or from the administration; and 2) the ability to undertake very long-range approaches that do not turn out but that are good for you. If you do not turn out papers for a long time, you may turn out a book after ten, twelve, fifteen years. What do the peers do in evaluating that work if they have to worry about reappointing and reappointing and extending contracts? You have a lot of difficulty in doing it on faith. But faith is a hard thing to quantify, and tenure protects and allows that kind of scholarship.

Now, in terms of the proliferation of scholarship, I believe that is the wrong problem. It is not tenure that drives that. It is the lack of guts on the part of editors and publishers. Stan talked about the real need for new publications to come out because of the way knowledge decisions are made, but I will tell you I run into so many editors who are much softer than I. I do not want to approve papers that consist of the simple plugging in of numbers to a known theory, particularly when the numbers have no relevance to any experiment. No one is ever going to use it again, but those papers get published because there is nothing wrong with them. All it does is waste paper, and wastes the time of people reading it. I would turn the issue around: worry about the editorship and responsibilities of leadership in scholarly publication rather the promotion and tenure system.

A Member: How do we engage in a dialogue with scholars about the criteria that are used for the judgment of what will be published, out of our mutual concern for the volume of publications of research and the economic impact of that volume on universities?

Mr. Katz: The volume of publication is quite differential. That description does not apply in the humanities at all and only to some extent to the social sciences. If you look at another field, say art history, it would be hard, I think, to use the same judgment of yet another analysis of a sculpture by Donatello. Other people have looked at that piece of sculpture, but it is in the nature of the humanities that a new view is in itself new data. Peer review is peer review; and if that does not measure up to the standards of art history, it should not be published.

Peer review works very well in our journals. Even in American history, where there are quite a few journals, it takes a very long time to get an article published. If you get an article published in two years, that is fast; the norm is between two and three years.

It may be in science, technology, and medicine that efforts should be concentrated. That is quite possible, but I believe the place to do it is with the professional societies. That is absolutely appropriate for ARL. I believe we can do it in the humanities and social sciences; I really cannot speak for the sciences. The way to do it is to bring together systematically people in your community and editors of learned journals, through the societies, and try to get them to focus more on the nature and quality of publications. I believe that is possible, although I would not be honest if I told you I thought that was going to reduce the number of publications. I do not.

A Member: I attended the Modern Languages Association Meeting in December, and surprisingly enough, there is a proliferation of new humanities journals in the related fields of that same kind of interdisciplinary work we have talked about in sciences. One of the arguments for purchase is that most often these journals are quarterly or biannual. These are considered affordable, as opposed to those scientific journals, which are several hundreds or thousands of dollars. So an argument may be made to purchase material because it is inexpensive versus cutting material that is very expensive. I see a parallel with the activities that will be going on in preservation; that is, how do you make decisions about the worth of disciplines because you can not keep it all, you can not buy it all? What are the forums or the vehicles for making those kinds of decisions:

Mr. Katz: I agree entirely with you. I know you cannot buy everything, and so do the educators. After all, most libraries over the last decade have been operating at least on the principle "you take on a new one, you drop an old one." That seemed to be a perfectly reasonable principle. The only thing I would say is that the librarian alone is the wrong person to make that choice, because it is an intellectual choice, not a cost choice; and there are other issues that have to be taken into account.

Scholars who use those materials ought to be consulted somehow as to the relative universe of serials for their work. They know that they cannot have everything, but they need to be forced to choose. Some will say to you, "I can't choose." Then you say, "Want me to make the choice?" I do not believe they would agree to do that. What you need is some real intellectual criteria to make library allocation decisions. On the whole, we do not do; that is what I am arguing. We know we have to make choices, but I believe we as scholars need to be involved in making the choices with you.

Mr. Glicksman: You cannot keep going back to the well and bringing more money out of the students, charging students indefinitely, in order to cover an expanded set of interests. So reallocation of resources is necessary in universities, and probably in our national government operation as well.

A Member: I believe I can say with reasonable assurance that practically every librarian in this room is making collection development decisions in close consultation with faculty, and certainly making any reallocation or cancellation decisions in close consultation with faculty. Many of the consortia with which we work are making efforts to work with the many scholarly societies. One of the difficulties in working with faculty in the university setting is the fact that the nature of the way we develop faculty is to produce people who are extremely specialized in extremely narrow fields of knowledge. Very often you get a response even within a department–let me take art history as an example–such as, "I'm not too concerned about the needs of our historians in general. I am concerned about the needs of our historians who specialize in Renaissance Italy." We need to find a way to, shall we say, to broaden the view of the faculty in terms of the needs of their colleagues in other fields.

At this point, that is a role that the library plays in a very important way, because when no one else can try to focus on the needs of the university community as a whole, the librarian can. On the whole that is not often perceived by individual academic disciplines.

Mr. Katz: Scholarship is becoming more specialized, and that is a real problem. I do not think there is any doubt about that. On the other hand, one of our responsibilities is to make sure training is broad enough so these people can make broader judgments. It is certainly true that many scholars care only about their own particular field; they are human. We understand that. So what we need, then, are mechanisms for tapping a whole department or departments. Groups of scholars within the university need to forge a consensus about what kinds of choices ought to be made. The libraries have sometimes done a good job of this, but they can be improved even in the best libraries I know. We have not been very thoughtful about what those mechanisms are. In a way the preservation crises may help because preservation forces decisions. Increasingly scholars are forced to make those choices.

I want to be involved. The scholarly societies need to be involved. My field has been legal history for the past twenty years. I have been on committees of federal, state, and local courts that are in the process of destroying documents, and what they said to us was, "We're destroying X-thousand documents in the next month; tell us which ones to destroy, or we will do it ourselves." Although my original response was, "You have to save it all." I realized that was ridiculous; so now I am on a new committee that corrects retention and destruction scheduling. I do not much like that kind of work. Other scholars are going to have to do the same sort of thing. They do not know that, and we have not built that into graduate education, or into faculty management. You can help us–it is the only way to do it.

APPLICATIONS OF TECHNOLOGY INNOVATIONS IN SCHOLARLY EXCHANGE

INTRODUCTION

Merrily Taylor

Librarian
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In Shakespeare's play *The Tempest*, as you may recall, the heroine Miranda has been raised on an island populated only by her, her father and a rather troublesome spirit, Calaban. When some people are shipwrecked on the island, and Miranda sees the strangers for the first time, she says the line which has become familiar to us for a variety of reasons, "Oh, brave new world that have such people in it."

In the last few years of this century, those lines have taken on a vaguely sinister or threatening quality because of Huxley's choice of *Brave New World* as the title for his novel about a future society which is rather sterile and frightening. It occurred to me that it would be appropriate today for us to remember the original setting of those lines and the way in which they might have been thought of before Huxley.

Miranda was brought up in an unknown and rather circumscribed environment. It was not without its wondering—her father's magic; and it was not without its terrors—the trouble that Calaban would get up to. But those wonders and those terrors were familiar to her. She would have known their sources, and she would have known how to respond, how to plan for a good future and, with any luck, how to avoid trouble. To some extent she could have predicted her future, and it would not have been a great deal different than her past. But when she saw that shipwrecked stranger, her life changed in an instant. Her exclamation, "Oh, brave new world," is an expression of wonder and of terror. She was enhanced and excited by the possibility of the unknown, by a wider world than had been revealed to her, and by the role which she might be called upon to play. She was not unaware of the dangers of this brave new world, but the overwhelming sense of those lines is enthusiasm, youthful exuberance, and a genuine eagerness to be a part of that future and what it may bring for her.

Those responsible for research libraries and the preservation of scholarly knowledge can identify with Miranda. For many years we existed in a world which had its beauty as well as its dangers, but which was familiar and comfortable. In the last years, we have seen that world utterly transformed by the arrival of powerful technologies that make it possible for us to do things that we never dreamt of and, at the same time, make it possible to get into tangles we could never have envisioned either. While I am the last one to minimize the complexity of the practical problems we face, I believe that our interests are better served if we approach our brave new world with something like Miranda's spirit of wonder, youth, and enthusiasm for the endless possibilities before us.

It is in that spirit that we present this program. Our distinguished guests will describe and demonstrate information technology applications that not only stand alone as achievements in their own right, but which also serve as tantalizing gleams of what may yet to be accomplished in the brave new world.

[Note: Following these brief descriptions, the meeting broke up into concurrent sessions for the technology demonstrations.]

AMERICAN MEMORY PROJECT

Robert Zich

Project Director
Library of Congress
Office of Planning and Development

Carl Fleischhauer and I are delighted to be here to tell you about a new dream taking form at the Library of Congress. It is a dream that we have come to you to help us shape. This dream first received expression in the words of Librarian of Congress James Billington in October of 1987, who said it was time the Library of Congress moved beyond the provision of cataloging records and exploited new technology to get the described items themselves into libraries and schools around the country.

At the 1988 American Library Association Conference at New Orleans in 1988, he presented his thoughts at a dinner with the heads of the eleven divisions of ALA. It was at that dinner that the name American Memory (as applied to this project) came into existence. When Dr. Billington returned to Washington, he instructed John Cole, Director of the Center for the Book, and myself to put some flesh on the bare bones idea of American Memory. We immediately saw the need to call in Carl Fleischhauer, from the Library's Folk Life Center, who had been in the Library's Optical Disk Pilot Program and possessed a media background. The three of us set to work thinking through the possibilities for this program.

First and foremost, we sought to achieve the dream that Dr. Billington had placed before us—using new technology to bring to the American people, through their libraries and schools, large coherent parts of collections from the Library of Congress. We quickly saw the value of another side of American Memory: LC could achieve many vital purposes if we managed to achieve American Memory's central purpose. We could, for instance, attack some of LC's collection processing backlogs, particularly in our unique collections of special materials. We have not been able to launch a serious assault on these backlogs in recent times. Additionally, we might be able to attract to the institution resources that would permit us to undertake these vital catalog and preservation chores on the way to creating American Memory products. Attracting these resources became an important goal. We also saw the possibility of our helping to set standards for equipment and software.

The Librarian of Congress had still other purposes. We could perhaps attract additional attention to worthy institutions, such as some state libraries, by putting American Memory stations and products in those locations. He also hoped to attract to libraries having American Memory stations a kind of reader that very infrequently finds his or her way there now, people who are video enthusiasts but who are not (yet) excited about books. Video-related technology could entice this new kind of patron to do real research in a real library.

Another purpose for American Memory was to create a platform for which other kinds of organizations, private and public, could produce ancillary products—especially products to be used as curriculum aids in schools. Finally, we saw American Memory as an opportunity to rethink cataloging and indexing requirements for library collections, particularly as made available via the new technologies.

After putting all these purposes together and analyzing the consequences, we were in a position to develop a budget, that has been submitted to Congress as part of LC's request for appropriations in fiscal year 1990. We hope that budget will bring new American Memory positions to the Library, the majority of which would go into our custodial divisions to help with cataloging, preservation, and other work which has been too long delayed—but additionally to support American Memory. If we are successful, we shall have launched a six-year American Memory program to publish fifteen to twenty LC collections, under three broad themes, using CD-ROMS, video disks, and possibly some other media.

Early on, we asked our staff to come forward with ideas for collections that might be appropriate for American Memory. People swamped us with more than 140 ideas. The suggestions seemed to fall into five or six themes, and we selected three for our beginning program. The first is the Congressional Bicentennial; second, American Popular Art and Culture; and third, American State and Local History. We have also applied for some foundation grants, one of which would support development of an additional theme, American Ingenuity and Invention.

We are currently in the planning stage. The prototype we have now is a simulation of what American Memory might be in five to ten years if we are successful in attracting resources to this project. It is a simulation developed originally for presentation to our House and Senate Appropriation Committees and is like an electronic slide show. In several weeks, we hope to have a second prototype, which will be the real thing. The present prototype uses Apple equipment, which the Apple company has given the Library of Congress. This second prototype offers a sampler from ten LC collections, a microcosm of possible future American Memory products. We will show the working prototype at the American Library Association Conference in 1989.

We also hope to put a prototype with additional improvements into an LC exhibit celebrating the Congressional Bicentennial, which opens September 28, 1989. Finally, in fiscal 1990, we hope to issue American Memory products for use in demonstration projects in some of your libraries, among others.

We wish to emphasize that we are still in the planning phase. We were delighted to receive the invitation from ARL to come and speak to you. Part of this delight was from self-interest. We are here to pick your brains. We need your help in developing American Memory. We hope to receive some of your ideas as you see what we have to offer, and when you have a better picture of what we are shaping.

Most particularly, we will be interested in having your responses to a questionnaire that we are sending to each of your libraries. It will ask you specifically about the kind of collections you think might be useful in your libraries as a resource for your various users, about electronic devices you now own and use, about your patrons and services, and other pertinent matters. There are some open-ended questions that permit you to provide us with any sort of ideas or suggestions you see fit.

We look forward to showing you our American Memory simulation and to having your ideas as we shape this very exciting program over the following weeks, months, and years. We hope to be working with you on this project for a long time. With your advice, we can create a new medium that permits a great leap forward in LC's ability to serve the research needs of the nation.

INTERMEDIA

Karen Catlin

Senior Software Engineer
Institute for Research in Information and Scholarship
Brown University

The Institute for Research in Information and Scholarship (IRIS) is a part of Brown University. The Institute began by looking at software tools for scholars, particularly those at Brown, who include faculty, students and graduate students. But over the past six years of our existence, we have found that "scholars" also include professionals in a variety of fields, such as law and business. So while our initial focus was on scholars in the university environment, we now realize that all types of business and professional people do similar kinds of work.

Our approach has been to develop tools. It is very different than the American Memory Project, which provides large pieces of information which the Library of Congress is very well suited to do. As software engineers, our approach is to provide tools to enable content experts to put information into our software. Content experts, of course, are the professors and graduate students who are teaching.

Almost since the founding of IRIS, we have been interested in the notion of hypertext; with Hypercard being so prevalent, most of you know what hypertext means. It is the ability to create electronic cross-references between significant pieces of information. People who use the system read our material on the screen. When they see a marker that indicates that there is more information (i.e., a footnote, a cross-reference, a bibliographic reference), they can easily, using the computer, issue a menu command and have the other end of the cross-reference appear on the screen. The user can then go on reading and discovering what the content expert put into the system.

Hypertext allows people to have a lot of flexibility in a computer environment. Our product, Intermedia, has been developed over a four year period. As a Macintosh-based product, it provides the user with the familiar Macintosh environment. We have a number of applications in that environment, including text, graphics, timeline for historical sequencing of events, and digitized images. The user enters information into the system using these applications. The key to hypertext is that anything that can be selected with a "mouse" can be linked or cross-referenced to anything else that can be selected with the "mouse". For example, parts of Shakespeare can be linked to descriptions and commentaries on Shakespeare, or to pictures of how the stage should be set when this scene is enacted.

Professors at Brown have used preliminary versions of our software for the past three years. Two major efforts have been in English literature and in plant cell biology. There have been a host of other smaller "test drives", where faculty try out this new technology to see what it means to bring it into their courses.

We have had some good feedback from the professors involved in the two major projects. George Landow, the English professor, has had an incredible experience teaching English literature. He has found that students no longer just sit there and expect to be lectured to. They use the software and find all of the related material about a book that they are reading and analyzing. They find out about the religious culture of the time, who the author was, who the author's friends were, how the friends influenced his or her writing style, and so on. The students discover this information because it is linked and cross-referenced in Intermedia. The class is no longer a traditional lecture. George Landow does not have to simply stand there and teach. The students want to take control. They put their chairs in a circle and talk and interact–a wonderful style for a college-level English course.

Peter Hayward, a plant cell biology professor, has also had tremendous results using Intermedia. His students come to class more prepared than they have ever been, ask more intelligent questions, and really seem to care about the material they are studying.

Intermedia also provides online access to the *American Heritage Dictionary*. It is indexed differently than other online dictionaries. You can look up definitions of words very simply, which you can do with many software packages currently available; but we also allow people to do other searches. For example, if you look up the word "fly," it will ask you, "Well, are you interested in fly or flight or flier or tsetse fly?"

The system can find other words based on the same root as the word you specified, and it will show you a list of such words. In addition you can, for example, request all the words in this dictionary that were derived from the Yiddish language. You could also find out all the words, such as "umbilical cord", having a special meaning in the aerospace industry.

The software has gone through a number of revisions based on feedback from the professors and students, and we have done our best to make the software better and to change it based on that feedback. We recently announced the availability of our software; any educational institution can buy it just for the cost of our manufacturing.

NAL TEXT DIGITIZING PROJECT

Judith A. Zidar

Technical Information Specialist
National Agricultural Library

A disk on the topic of aquaculture is the first of four pilot study disks to be produced under the National Agricultural Library (NAL) Text Digitizing Project. This is a cooperative project by NAL and forty-three land grant universities. Each of the universities originally contributed approximately three thousand dollars to the project; as a result of the interest shown in this technology, the Department of Agriculture contributed another two hundred thousand dollars to the study. With this funding, we were able to purchase just one system. That is what we are starting out with, in order to investigate the feasibility of the technology and the possibility of distributing agricultural information using this method.

The system was installed at NAL in January 1988. It is microcomputer-based system. We use a RICOH Optical Scanner as input device. It creates electronic page images, which are then sent through a Calera 9000 Recognition Server. The recognition server finds all the text and creates ASCII files from it. Once we have these ASCII files, we can run them through an indexing module of whatever retrieval package we want to use. The result is a full-text, fully-indexed database that includes both page images and text. All this is sent to a mastering facility which produces the CD-ROMs.

Aquaculture is the first of the pilot study disks. We are producing three other disks, one of which, on international agriculture, is being sponsored by the World Bank. This disk will use a different retrieval package, KAWare 2. Another disk, on Agent Orange, will be produced using a Windows version of Personal Librarian. We are also going to be doing a disk on food radiation, but the software package has yet to be determined.

Once these disks are completed, there will be a big project, a multi-disk set, on acid rain. The University of Vermont has acquired a collection from Canada that is not available, as far as we know, in the United States. We are planning to make it available through these disks. The aquaculture disk is unique because it is our first disk, and we did a lot of experimenting. For example, we experimented with different editing levels. As most of you have heard if you are familiar with text recognition, the output is not perfect. We did do some editing and clean up, but for the first disk, we did different levels of editing.

We have also put MARC cataloging records for each publication on this disk, which may or may not do for future disks. The quality of the high resolution page images that this system produces is one of the reasons we bought this system, and we are very excited about the images.

NEXT WORKSTATION

Arif Diwan

Systems Development Senior Programmer
Computer Information Service
Brown University

The NEXT machine is a wonderful tool for scientists, researchers in the humanities, or even the casual user. I am not going to say much about it because words are not sufficient to describe what it is—I would like you to see it in operation.

The Brown University Computer Information Service is a place where software and hardware platforms are networked together. In fact, the entire campus is networked together. The NEXT machine and Intermedia are two examples of computing at Brown.

The NEXT machine is networkable, and you can share and exchange data in an optically-oriented fashion. It has a 3-D graphic interface, and you can use a mouse like a regular Macintosh computer. I will provide more details during the demonstration.

CISTI DOCUMENT DELIVERY SYSTEM

Peter Wolters

Project Manager
Canadian Construction Information System

When we set out to automate our Document Delivery operation about five years ago, we set four goals. First, we wanted to have a supply rate of seventy-five percent or better. Second, the accuracy between computerized matching of incoming requests to our collection should be 90 percent or better. Third, turn-around time should be such that fifty percent of all incoming requests should be out the door in forty-eight hours or less. Fourth, with respect to productivity, we wanted to accommodate a six to ten percent workload increase per year over a five-year period without any additional staff.

To give you an idea of the volume we are dealing with, it is a little bit less than 500,000 documents; but it ought to be well over 500,000 this fiscal year. We have shipped 376,000 documents, and our supply rate, in effect, is 82.5 percent; so the first objective has been met. Our main customer for Document Delivery Service is industry. Because we are on a cost-recovery program, it is very important that we provide this service in a timely manner. In 1984, we looked at the situation we would face if no automation were to take place. If we had done nothing in terms of automation or increasing productivity by 1995, we would have required 435 people. Obviously, that was not possible.

We took two steps. First of all, we analyzed those activities which yielded short-term benefits. Second, we identified projects that had a significant impact on productivity. Before we could identify our main targets for improvements, we had to analyze the existing system. We did this by way of time and motion studies, analyzing all processes that took more than two seconds. We used this on a minimum of one hundred transactions in order to get a representative workload sample.

This data was then put through some statistical models to determine the major human resource consumption. Another significant development over the last five years benefitting our automation activities was the extensive use by Canadians of electronic document ordering systems. There are three types: electronic messaging, which accounts for forty-eight percent; database generated requests, about fifty percent of all electronic orders; and finally, telephoned requests which account for two percent. The bottom line is the important one: from something like ten percent five years ago we are now up to seventy-seven percent of all requests in electronic form. Anything coming to us in that form lends itself to computer processing.

Computerization is not always essential; for example, we used to stamp a copyright notice on photocopies. It is now preprinted on the paper stock. Because of the time and motion study, we discovered that the equipment and people were not located in the right places; so we moved things closer together. Shelf markers is something we copied from the British Lending Library; again, a great way of speeding up the shelving process. All address labeling systems are now automated. High speed copiers are being evaluated constantly. We are streamlining electronic requests, by strict allowance to a sequence of electronic prompts. Finally, we follow a very rigorous processing schedule during our working day.

The time and motion study I talked about earlier had determined that thirty to thirty-five percent of all our resources were expended on matching incoming requests to the location of the journal issue in our collection. That was obviously a prime contender for automation. Electronic requests are received by us in basically four forms: first, telephone requests where an operator has a headset and types information into the computer as the caller gives it to us; second, structured requests from our National Electronic Message System, which is operated by Bell Canada—we have cooperated with Bell Canada extensively to meet our requirements; third, from our own CAN/OLE System; and finally, from our online catalog.

We now have software which, from an incoming request, isolates any one of these items: journal title, author, numbers. From these available data elements, we follow a preset sequence of events. If we have a code, we examine this first because it is the most precise piece of information. Second, we look for an ISSN; third, the author; and last the title. The software constructs a search if it gets a match, it goes to the database, picks out this particular journal record, and gives the call number. You cannot have call numbers, of course, unless you have your own online catalogs available for this process. We have two of these: the serials holding file, which consists of 54,500 technical journals; and the monograph holdings file, which holds 300,000 titles.

An incoming request is processed by the search and matching software, which in turn draws on a number of databases of abbreviations. For example, the user puts in "J" instead of "journal," or "eng." instead of "engineer," or "assoc" instead of "association." The computer figures all this out, expands the word and gives our staff fully spelled titles. Since we do not want to cause any delays in processing this request, there are a series of databases which are called in by the search software. The result is a request with a call number attached. The turn-around time is very quick because matching is performed by computer.

What have we done with respect to our four objectives? In July 1985, when we took the first measurements on this first automated system, we managed to match 33.2 percent of all requests by computer. In other words, of all incoming requests, thirty-three percent were assigned a call number by the computer at a ninety-two percent accuracy rate, and now we are at fifty-three percent and ninety-seven percent accuracy. In total this represents 263,000 requests for photocopies that have been automatically assigned call numbers by computer. We estimate that the equivalent person-year effort is in the order of seven.

Starting in 1983, turn-around time within the first day of processing improved from four percent to eighteen percent. Within forty-eight hours, which you will remember was our goal, turn-around time improved from 27.6 to 65 percent; and within three working days, we have more than doubled our turn-around time.

These computerized methods have significantly improved our productivity, but one can no longer stand still. We are now contemplating Phase 2 of the project. First of all, we need to tie requests into our check-in procedures, because a request for an item that is not on the shelf is not going to be in the computer in the first place. We want to use unfilled requests as a decision making tool, in terms of how to expand the collection, and be more responsive to user needs. We are developing matching methods that improve the success rate from between eighty to ninety percent by producing more computer-controlled search modes. Finally, we are introducing matching information systems for all requests so that a request is tracked from the time it gets into the system until it is completed.

CUADRA STAR DATABASE AND INFORMATION RETRIEVAL SYSTEM

Scott Armstrong

Executive Director
National Security Archive

Most of you have some familiarity with the National Security Archive, a nonprofit, nonpartisan library and research institute located in Washington, D.C. If you have not visited us at the Brookings Institution, where we have forty-two very dedicated staff, you should stop in on your next trip through Washington. We are in the business of identifying, assembling, and disseminating declassified and unclassified documents on foreign policy, defense policy, intelligence policy, and international economic policy of the Executive Branch.

In January 1989, we got into the preservation business for the first time, but I do not mean that we are concerned about brittle books or the restoration of delicate manuscripts. We learned, on the eve of the inauguration of President Bush, that it was the intention of the National Security Council and the Executive Office of the President to destroy the entire electronic database of the Reagan Administration—just simply 'blip' it out of existence.

The National Archives, the appropriate place for the preservation of government records, indicated that electronic information were not government records. They explained that if these were government records, they surely would have been printed out. We cited some intelligence from the Iran-Contra Affair to show there were times when what were clearly government records did not find their way to print; and if they did, they found their way to the shredder just as quickly. We had to go in for a temporary restraining order against the destruction of the electronic files. In fact, our lawsuit is the last lawsuit against President Reagan and the first lawsuit against President Bush.

On the eve of the inauguration we went into court with President Bush's favorite advocacy group, the American Civil Liberties Union, as our counsel. We appeared before Judge Barrington Parker, a very experienced local judge. We expected an Assistant United States Attorney, a low-level functionary, to argue for the government. Instead, the acting Deputy Attorney General, John Bolton, argued the case himself. He rushed into court and said, "Your Honor, you can't grant this motion, it will prevent the inauguration of President Bush. We cannot guarantee that he will become president tomorrow if we go forward with this." This very august but savvy judge contemplated this in, basically, a fit of laughter. "Mr. Bolton, you're kidding?" "No, your Honor, it's as if the tenant who is moving out of the house put all of their furniture in the doors and windows, and the new tenant couldn't move in." Parker considered this for a moment, having dealt with many landlord-tenant disputes in the past, and he said, "Mr. Bolton, there's only one problem. Most tenants when they move out don't want to burn all the furniture."

We got our temporary restraining order, and we are still battling that issue today; so we are now in the preservation business in a back-handed manner. We are accumulating material, and providing intellectual control in the form of indexing about 50,000 documents a year; nearly a quarter of million pages come in each year.

We will be producing seven different collections in defined areas this year. We are essentially at a crossroads. We are beginning to look at some of the opportunities that this very powerful indexing system gives us. We are looking for partners, for beta sites, and for other opportunities to see how we might best use the system. This powerful indexing tool has given us an amazing ability to manipulate government information and, I believe, create a degree of government accountability that simply was not there in the past.

It is now up to us to determine how to make this more accessible to the variety of researchers in various academic fields who are beginning to change their notion of what you can do with government documents and what a government document is. These government documents are now being used in courses at Columbia, Harvard, Stanford, Johns Hopkins, and elsewhere. We are just beginning to see how they can enter the curriculum on a regular basis, and how the government document collections in the library can become the backbone of truly individualized learning on both the undergraduate and graduate level.

One of the areas in which we have done some work is the Cuban Missile Crisis. We were involved in a conference in January 1989 in Moscow. I will simply say, in testimony to the power of holding the government accountable, albeit twenty-seven years after the event, that we made some news coming out of that conference. There were three days of headlines in the *New York Times* and *The Washington Post* based on our ability to manipulate information and persuade people to talk about things that they were not willing to talk about before.

This system can also show you not only the paper document, but the catalog and indexing entries to the minutes of the National Security Planning Group Meeting of June 25, 1984. This meeting is the first of the so-called "quid pro quo" meetings that did not happen according to President Bush; and it is also the meeting in which President Reagan said, "If such a story got out, we will all be hanging by our thumbs in front of the White House until we find out who did it." The quote has been taken out of context. It is a remarkable document. It is a document that discusses El Salvador and Nicaragua, Honduras and the Contra Program, and a wide variety of things. It is a truly powerful document when you begin to look at how many access points we are able to get out of it. We have roughly one hundred access points. We do not index by the document, but by the intellectual transaction within the document; not only the name of every organization, but essentially every item of business that is conducted therein.

Congress asks us on a daily basis, sometimes several times a day, to run our computer database to find new information about various nominees. It is particularly exciting for us because the opportunity to get our government information electronically, assuming the federal government recognizes that there is such a thing as an electronic record, becomes an enormously powerful and useful tool.

At the 1989 American Library Association conference in Dallas we hope to display the first of our document collections, which we hope will soon be in all ARL libraries.

BUSINESS MEETING, SESSION I

[President **Charles E. Miller** (*Florida State University*) convened Business Meeting, Session I at 1:30 pm on Thursday, May 11, 1989 at the Omni Biltmore Hotel, Providence, RI]

Mr. Miller: To open this session, it is my great pleasure to welcome to the 114th meeting of the Association of Research Libraries the Governor of Rhode Island, the Honorable Edward D. DiPrete. Governor DiPrete was first elected governor of the State of Rhode Island in 1984. Prior to being elected governor, he served as the mayor of the City of Cranston. Governor DiPrete made education his top priority in 1987 and 1988. Among the programs already implemented are the Education Improvement Act of 1988, the Literacy and Drop-out Prevention Act of 1987, a multi-million dollar Excellence in Education Fund, a multi-million dollar revamping of the vocational education system, creation of the Governor's Scholar Program, and the Higher Education Improvement Act of 1987.

At the national level, Governor DiPrete has provided leadership in the area of technology and education within the National Governors Association. He is chairman of the National Governors Association Committee on Economic Development and Technology, and Vice Chairman of the Task Force on Leadership and Management of the Governors 1991 Report on Education. Throughout his career as governor and mayor of Cranston, he has been a supporter of libraries. During his administration, he has increased funding for libraries by 72 percent. It is with great pleasure that I welcome the Honorable Edward D. DiPrete.

Welcome and Remarks

Edward I. DiPrete, Governor, State of Rhode Island

Good afternoon, ladies and gentlemen. It is my pleasure to join you for a portion of this afternoon to bring the greetings and best wishes of all the people of this great State of Rhode Island. While I realize that today is the second day of the conference, I want to welcome you officially to the Ocean State. While you are here, I hope you have the opportunity to take in many of the attractions that this state has to offer, and I hope you have the opportunity to get to know our people. They are very friendly people who will be delighted to see you here. We are very honored to play host to such a distinguished group of library professionals.

Here in Rhode Island, we are extremely proud of our library network. We invested a considerable amount of money improving our services, and we are going to continue to do so. This state has long been a pioneer in library services. In fact, Rhode Island established one of the earliest state-wide, multi-type library networks in the entire country. Our exceptional academic and research libraries have long played a significant role in meeting the informational needs of our citizens.

Now, there have been many individuals whose contributions stand out, and I believe it is appropriate today that I would particularly like to commend Brown University Library and Merrily

Taylor for her significant leadership role. Merrily was also an instrumental part of the Management Committee of the Rhode Island Library Study. This study is assisting in several ways and will serve as the blueprint for future library development in this state. It will help make our library services even more efficient, more effective, and more enjoyable.

I know that the Association of Research Libraries has been in the forefront of the drive to incorporate the latest information research technologies into play throughout the nation, and that is a challenge we are taking very, very seriously here in this state. The more knowledge that we can spread, the more answers we can share, the better our schools will be. The better our schools, the more promise for our nation's future. Technology is the key.

Last year I announced plans for a program entitled "Extending Our Reach with Technology." It is the final component of the National Governors' Association Report, the 1991 report on education, and that is the last component that we have to put into place here in the State of Rhode Island. This program will cost some fifteen million dollars for a state of our size, about a million people. Fifteen million dollars is significant funding for a state of a million people; when fully implemented, this program will link together our state library system, our institutions of higher education, our public schools, and our public television station. It is designed to prepare our students for the increasingly technological world of the future.

There are six specifics of this program that I would like to share with you. The first is the development of a state-wide communications network that will link school districts and public libraries to each other and to the Department of Education. Second, it will increase the quality of information about the performance of our school systems. This will assist teachers, administrators, and school committees in making policy and program decisions. Third, we will establish a technology center in the Department of Education to provide support to local school districts as they increase their use of the existing and emerging technological tools. Fourth, it will support the establishment of three regional collaboratives to deal with the use of technology in instruction and in management. Fifth, it will work to develop partnerships with business and industry, and with government agencies and the Department of Defense to transfer technological applications which were developed in those sectors to our schools. Sixth and finally, this initiative will encourage and support our institutions of higher education to incorporate training and technology applications into their teacher education programs. I was pleased to include an allocation of $100,000 in the 1990 budget currently before the General Assembly, in this state, and this proposal will really get us through the planning phase of the initiative. Rhode Island is thoroughly committed to seeing this program become a reality.

In closing, let me just take a moment to commend all of you for your leadership and your dedication. Our research libraries contain the information that is the very foundation of our future. And making that information more readily available is an endeavor of great significance. As governor of the state and on behalf of Rhode Islanders everywhere, I wish you well during the remainder of your conference and hope you will come back to visit us soon.

Agenda for the ARL Business Meeting

Mr. Miller: This component of the meeting, Business Session I, consists of reports from national agencies, and a report on the serials prices project. Action items requiring membership voting will be held until Business Session II. Executive Director Duane Webster will moderate this session for us.

Mr. Webster: This business session consists of a new two-part format. In Session I we will have a series of reports from representatives of several agencies with which we are working closely. We hope to encourage a more active dialogue, both here today with their reports and your questions and comments, and, of course, in the intervals between the meetings. As part of this new posture of inviting reports from these external agencies and encouraging dialogue in our sessions together, we have invited several representatives of the press to attend the ARL meeting. This is the first time we have done so. To refer to Governor DiPrete's remarks, the requirement for leadership and advocacy argue very strongly for our need to articulate our point of view, our positions, and our concerns to the press. After serious discussions with the Executive Committee and with the Board, it was felt appropriate to invite the press. I would like to welcome Judith Turner from *The Chronicle of Higher Education* and GraceAnne DeCandido from *Library Journal*. We also invited Art Plotnick from *American Libraries*. As he is on deadline today, he was unable to attend the meeting, and he asked for a report as soon as possible.

Serials Prices Project

Susan Nutter, Chair, ARL Committee on Collection Development

Mr. Webster: This report comes first on our agenda because of the importance of the effort, the resources invested in looking at these issues, and the need to establish publicly an ARL strategy in this area. ARL initiated the serial prices project in the spring of 1988 to determine a course of action regarding a crisis affecting research libraries' ability to serve the information needs of the scholarly community. The ARL Committee on Collection Development proposed the study; the ARL Board of Directors endorsed the concept; ARL members each agreed to commit a two hundred dollar special assessment to fund the work; and ARL staff coordinated the work of the consultants retained to do the analysis.

The results of this effort are the two consultant reports that were distributed to you in April 1989[1]. They have been embargoed for further distribution until after our discussions here this week. At this meeting, members have had a chance to discuss the recommendations and the finding at a small group discussion yesterday. The committee has met and discussed an appropriate response to the consultant recommendations, and I would like to invite Susan Nutter to talk to us about what that response should be.

Ms. Nutter *(North Carolina State University)*: My report will be brief. My purpose is twofold: first, to report to you, the membership, on the serials prices project; and second, to review with you the recommendations for ARL action that have been proposed by the ARL Committee on Collection Development. Following my report, there will be an opportunity for you to discuss the two reports on serial prices that were distributed and the recommendations.

The first, from the Economic Consulting Services, Inc., or ECS, presents the findings and conclusions from a statistical analysis of prices for 150 serials against the publishing costs from four commercial publishers during the period 1973 through 1987. The results indicate that cost increases do not justify the price increases that have been paid by research libraries. For example, even if we use a shorter time period–from base year of 1980 through 1988–an operation that in 1980 that was at a break-even point would have grown by the year 1988 to one with a 34 percent to 129 percent rate of profit. The report concludes that the library community would benefit from the introduction of a program to stimulate greater competition among publishers.

The second report, by Ann Okerson, an independent consultant, provides a comprehensive review of the serials price problem that indicates the problem is not new. It was with us in the last century, and it has recurred throughout this century. Okerson concludes that we have not yet resolved the problem, partly due to the fact that it is broad and complex with many diverse players, but also due to the fact that we simply have not tried hard enough.

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[1] *Report of the ARL Serials Prices Project: A Compilation of Reports Examining the Serials Prices Problem.* (Washington, D.C.: Association of Research Libraries, 1989).

There have been many laudable local and individual efforts, Okerson reports, but there has been no massive, seriously coordinated set of activities towards resolving the problem. She predicts if we continue to react as we have done in the past—that is, putting the problem aside except when it creates tremendous budget crises for us—we can expect to win only skirmishes that will be repeatedly fought in the future and throughout the next century. She suggests we learn from history and move now to identify possible actions that ARL can take to address the causes of the problem. The Committee on Collection Development met yesterday to review and discuss the reports and to determine a set of directions to recommend to the ARL Board at its meeting tomorrow.

It is important to note that while the committee's recommendations draw on the data and conclusions of both consultant reports, the recommendations are not identical to those in the reports. To a certain extent that is true because we shared some of the concerns expressed by Dr. Katz this morning. It is also important to note that the committee's recommendations were unanimously supported.

The committee will recommend to the Board that ARL take immediate, bold, and decisive action in three directions. First, that ARL lead efforts with external constituencies to communicate the nature of the problem and the actions needed to address the causes of it as well as to develop several library-oriented consumer advocate services. The committee proposes that a program officer, to be funded from external sources, direct these efforts. I should mention here that we rejected the idea of a dues assessment to support this activity. We also looked at the possibility of reallocating the current ARL staff resources but concluded those resources were already over-extended and did not believe it would be appropriate to take that direction.

The second recommendation is that ARL orchestrate actions to introduce greater competition to the commercial publishers. The suggested steps include advocating the transfer of publication of research results from the serials produced by commercial publishers to existing noncommercial channels, and also to encourage the creation of innovative, nonprofit alternatives to traditional commercial publishers. The third recommendation is that ARL form a partnership with scholarly groups to examine the scholarly publishing process and find ways to manage the explosion in research and knowledge and the explosion in publishing.

The committee also recommends that a report be prepared immediately for publication and that it be widely disseminated. The report, as the committee envisions it, would include an executive summary that would provide an overview and assessment of the problem and the three recommendations for ARL action, and would include the two reports as background documents. We are also recommending an updating of the ARL briefing package on serials prices, perhaps on an annual basis.

The committee made these forceful recommendations in the context of the ARL mission statement, as well as in recognition of one of ARL's self-acknowledged capabilities. First, let me read to you the first line of the new mission statement. "The mission of ARL is to identify and influence forces affecting the future of research libraries and the process of scholarly communication." The mission statement also urges the forging of coalitions for cooperative actions. ARL's major capability, that of improving access to scholarly information, is related to the establishing, funding, and managing of projects that are designed to achieve the ARL mission of influencing the process of scholarly communication.

The ARL Board is seeking a sense of member readiness and interest and hopes to hear from you this afternoon. I should make note of the current topic session yesterday that provided the first opportunity for the membership to discuss the reports and the committee's recommendations. The members attending urged me to include a report on that discussion; however, because time is short and also because those members' comments and recommendations were so forceful and so full of urgency, I believe it would be more effective for them to repeat them for you today.

Let me just say that the group supported strongly the committee's recommendations and agreed with the need for immediate action, so much so that one member suggested that directors might be willing to provide a thousand dollars each to get the project started and asked for a show of hands. Almost every hand in the room went up immediately.

In closing, let me mention two things. First, the committee plans to present a resolution to the Board on this issue at Session II of the Business Meeting. Second, I want to remind you that the Board, the committee, and the press are listening. They seek a sense of member readiness and interest. You, the members, have already invested financially in this project. The analytical work has been done, and the strategies have been laid out. We are at a crossroad, a turning point, even a flash point, in the history of this issue. If the Board does not have the constituency with it on this issue, we will not be able to move forward.

Discussion

A Member: I am concerned in part about the search for outside funding from the standpoint of delaying things. I think this is so urgent that we have to make sure that momentum continues; and if the project is held back because of waiting for outside funding, I believe it will be a real problem.

Mr. Webster: Clearly the development of a proposal, submission of that proposal to funding agencies, and funding cycle of any agency, will take time. That does not mean, however, that in the interval other things underway—including publicity, distribution of materials, and continued collection of information—would not be ongoing. But, while there is a delay involved in going outside the organization, at the same time, some of our members are experiencing some financial pressures; so there is a tradeoff.

My sense, and Susan can comment on it, is that the committee has looked very seriously at the tradeoffs. They have looked at the urgency, at the effort made to collect and analyze information, to be sure that it is objective, strongly worded, and carefully sorted out. They have made sure there are, in fact, a set of actions that are concrete and specific to be pursued. They have done the preliminary work. They feel that they have put together a strong case and that they can make that case to external funding agencies and get support. It is a choice, a course of action, that allows us to still move the project forward in a timely fashion without putting additional pressure on members with limited resources.

Ms. Nutter: I should add that the committee did not expect a strong show of financial support for this; that is something we really have not taken into consideration and were quite surprised.

Ms. Martin *(National Commission on Libraries and Information Services)*: I am speaking from my own point of view, not formally on behalf of NCLIS, but I am going to suggest something that I should take forward to NCLIS. I have just assigned a staff member to work part time on the question of what NCLIS should be doing regarding serial prices. Perhaps it would be appropriate for us to look at working directly with ARL for providing some time in terms of part-time FTE to help in this effort.

Mr. Webster: We welcome that suggestion.

A Member: I have two questions. One is regarding the role of the ARL program officer who would be assigned to this project. It seems to me that a number of organizations are already compiling data, issuing various reports, press releases, briefing packages and so forth. Do you have in mind that the program officer's primary role would be to gather and disseminate such evaluations? The second question is, what would the role of ARL be as a lobbying group? Could you define what lobbying efforts might come from ARL?

Ms. Nutter: The most important role we envision is the role of directing the effort and coordinating the efforts. We would work together with other organizations to collect data. We are also looking at whether that person would be supported by a number of interested allies or partners, and that is something we would leave to the board to decide. Our sense is that there are other groups interested in supporting the effort, and one outcome might be an office of communication that would be supported by a number of organizations.

Mr. Webster: Certainly the study that Ann Okerson put together was very much a collaborative effort. She talked with the leaders who have been working on this issue and they have contributed to the study. The Okerson report[2] was a collaborative activity that looked at how we can move forward rather than reproduce or redesign; the effort that has been proposed here should be similar in intent.

The other attractive part of the proposed effort is the notion of taking advantage of capabilities already present within the association; for example, the federal relations survey, information and dissemination capabilities. The ARL staff have the ongoing working relationships with several national organizations. By establishing a presence that would focus, provide time, and have resources to pursue this topic, we could take that capability and connect it with already present capabilities to extend our leadership and advocacy on this issue.

A Member: I believe it is time to maintain our persistence no matter how long it takes or how hard it is. To get outside support takes too much time. This is probably the single most important issue we have to face right now. If we let time go by, we are going to lose momentum. Symbolically, the highest priority is to commit ourselves emotionally as well as financially. I would support some sort of financial assessment as we had in the past. This would demonstrate to ourselves and to the outside world that this is very, very important to us. Maybe the funding agencies will be more likely to support us if we put some of our money in.

Mr. Webster: The members have, in fact, already shown that commitment. They have invested some money, and it is a question of investing additional money.

A Member: I am delighted that for the first time we have some substantive data in hand and reliable ammunition with which to combat this problem. I would like to take exception with two of the report recommendations, not because I believe they are wrong in themselves, but because I believe they are misguided strategically. First, I do not believe it will serve any purpose to attack the tenure system of universities. I agree that is one of the problems, but I believe it will hurt us to get involved in that issue now. Second, I cannot imagine how we are going to begin competing with many of these publishers. I believe we should concentrate our efforts on attacking, exposing, embarrassing, and shaming those publishers who are deliberately, unscrupulously, without any regard to principle, driving prices through the ceiling. It is time we took this public. Why not get Ralph Nader, Carl Sagan, and other well-known people involved? This problem affects the very institutions of teaching and research.

We have some problems, too. We cozy up to these people. We invite them to our conferences. We have dialogue with them. Why are we doing this? We have a fox in the hen house, and that is bad enough. We do not have to invite them to the table and tuck napkins under their chins.

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[2] Okerson, Ann, "Of Making Many Books There Is No End: Report on Serials Prices." In *Report of the ARL Serials Prices Project*. (Washington, D.C.: Association of Research Libraries, 1989).

Mr. Webster: Very well said. We will take it under advisement.

A Member: Since we have this issue in front of us, I wonder why the Association cannot act on the resolution. It makes more sense to address it now.

Mr. Webster: We have a number of guests present, and there is a voting process for institution member representatives only. There will be a series of resolutions to take action on. We wanted to package those together, it is simply a point of convenience.

Ms. Nutter: I want to respond to the previous speaker's points, because they are important points. The first was about the tenure issue. The committee was in agreement with the speaker and did not feel that was an appropriate role. Also we are not sure that the proliferation of publishing is a result of the tenure process. We are more interested in trying to manage than control it. As to the second point, we felt that in the report from Economic Consulting Service, these economists had a good sense of the situation. They felt very strongly that competition was the only possibility and that some of these other approaches worked in the short term but did not solve the problem. We are all very interested in solving the problem for the long term. Also, Ann Okerson reports that in talking to the society publishers, they expressed general interest in working with us on this issue.

A Member: I am skeptical about having any effect on the pattern of journal prices in the aggregate. I welcome further competition. I welcome the efforts to the end. I am skeptical about the pattern of prices assessed by market conditions that will be difficult to change; we ought to take account of our likelihood of success in deciding on the financial plans.

Mr. Webster: That is certainly a point well taken. What is admirable about the set of recommendations is their two dimensions. They suggest we look at what we have some control over: the way we look at journals, the way we select them, the way we decide to select them, the degree to which good information and value are present in those journals, how we communicate that value to our faculty, and the degree to which we are able to work in our own institution to address these issues.

I thought the report was quite strong in distinguishing between direct action through consumer advocacy, and the long-term prospects of having a distinct impact on the larger environment of scholarly exchange. There were specific collaborative actions we can take now with our colleagues in the disciplines and in publication efforts. We might not be able to successfully introduce competition, or redress some of the causes of the problem on our own. But by taking action with other constituencies that have a stake in the problem, we develop a stronger community of interest.

A Member: I disagree with not taking issue with the tenure problem. I believe that is the problem. I also believe that we all ought to say something about the sponsored programming which essentially demands a publication to finish a sponsored program before the next grant is produced. That also has increased the number of publications. We ought to speak out in a helpfully critical way about sponsoring a program which produces more publications.

Association of American Universities

John Vaughn, Senior Federal Relations Director

When I came to AAU in 1979, I thought I was on loan for a year; but I ended up staying. Shortly after I committed myself to staying, I realized I did not have a good idea of what AAU was and its role and interest in research libraries; some of you might also be unclear as well. Let me tell you about the organization, how we operate, and where research libraries come into play.

AAU is an organization of fifty-six American and Canadian research universities represented by their chief executive officers, the presidents and chancellors. We focus almost exclusively on issues concerning academic research and graduate and professional education; our primary focus is on the relationship between universities and federal government. That leaves out a lot of activities–such as state and local activities and undergraduate education–that affect higher education tremendously. We have four standing committees and a series of ad hoc committees. The four standing committees cover science research, biomedical research, graduate education, and the research libraries. I have participated in the latter two.

Bob O'Neill, President of the University of Virginia, is the current chairman of the research libraries committee. I will describe some of the ways AAU gets involved in issues concerning ARL, specifically preservation, federal appropriations, and serial pricing.

In 1981, AAU and the Council of Library Resources undertook a joint project to look at five issues: preservation, resource sharing, bibliographic control, technology development, and training of librarians. A number of you were involved in that project. Several of our presidents were directly involved as members of task forces. The AAU membership was kept apprised through the Research Library Committee and through various plenary sessions at our membership meetings.

My candid view is that the effort had mixed results; but one very useful outcome was the focus on preservation. The ensuing activities have evolved into the current Commission on Preservation and Access. Extraordinary progress has been made in the preservation effort, and we now have an energizing strategy about preservation of brittle books. That strategy has produced an enormous commitment of resources to various preservation programs–$12,000,000 from the federal government. The national preservation plan has enormous ramifications for how national resources are managed. It goes well beyond preservation, and we are on the threshold of moving a significant portion of our collection from libraries loosely connected by voluntary resource sharing to a coordinated set of national resources, access to which must be governed by some sort of central coordinating body.

If the federal appropriations schedule is adhered to, preservation activities will receive roughly $320,000,000 from the federal government over 20 years. The federal government is not often in the business of allocating that kind of resource, so they are certainly going to want to watch closely and have some say in management of this national resource. We need a group of organizations interested in this issue to develop a second set of procedures in order to broaden the discussion among a larger set of organizations so that a consensus can be built on how this resource is developed and managed. I hope that ARL, AAU, CLR, and other scholarly organizations will closely follow the preservation project, which has enormous potential to capture what otherwise might be a lost resource. In the process, they can develop a mechanism for working with each other, with individual universities, national organizations, education groups, and the federal government in ways that go well beyond the specific issue of preservation.

The Research Libraries Committee, which Stan Katz alluded to in his presentation, is sponsored by AAU, the American Council of Learned Societies, the Social Science Research Council, and CLR. They are looking at a range of issues. Several of our presidents are members of that committee. Through the committee and through other mechanisms, we try to keep the presidents of AAU involved in the large issues facing research libraries. While they deal with these issues on their own campuses, AAU provides an opportunity for these presidents and chancellors to discuss them collectively.

This past April, Sid Verba, Director of Libraries at Harvard University, and Billy Frye, Provost at Emory University, conducted a plenary session with our membership to discuss major issues confronting research libraries today. Sid Verba did a terrific job of laying out some things that are going on: the impact of information technology, the fact that research libraries have never thrown anything away, but instead learn new ways to acquire new information, and the burdens that is placing on libraries. In the same session, Billy Frye gave a detailed description of the national preservation plan.

In my own work on appropriations, which takes up a fair amount of my time, I take my lead from ARL Assistant Executive Director Jaia Barrett on the Department of Education's Title II. If there are any of you out there who do not realize what an enormously valuable resource she is to you, let me just tell you from my perspective she does a terrific job in watching out for the interests of research libraries with the federal government. I find her a very helpful resource.

My impression is that in the Congressional committees that fund the Department of Education there is an implicit division of the Higher Education Act into student aid and everything else. The Higher Education Act is a very busy piece of legislation. There are 12 titles. Spread across the dynamic and static titles—the dynamic ones being those dealing with student aid—there is 10 billion dollars.

The static titles are those which Jaia and I worry about, for example, Title II. I worry about Title VI, International Studies, and Title IX, Graduate Education. Reauthorization of the Higher Education Act is coming up, and we can use this as an opportunity to step back and think about what Title II is doing and what it might do. When you think about some of the things which Ken King discussed this morning, such as the way information is providing opportunities and financial challenges to universities, it seems that there should be a way of capturing some of these opportunities in Title II. If, during reauthorization, we develop a new line of argument to capture some of the new possibilities that are underway in information technology, we may be able to modify the legislation in ways that can result in substantially increased appropriations for Title II.

A final point I want to mention is serial pricing. Duane Webster met with our AAU Research Libraries Committee a year ago to talk about a project ARL was then launching, the report of which you have just received. Bob O'Neill briefed the AAU membership on the findings and the recommendations of that committee and the recommendations of your two studies. He commented that the AAU Research Libraries Committee should be following this issue very closely and reporting to the full membership to keep them apprised and ready to take any action that AAU as an organization ought to take.

At the end of that session, Dick Atkinson, who is currently the Chancellor at the University of California, San Diego and past president of the American Association for the Advancement of Science, urged me to contact AAAS concerning the possibility of AAAS looking at the publications issue and whether they might be able to promote noncommercial journals. I called Rich Nicholson, the new director at AAAS a couple of days ago, and mentioned what ARL has been doing and finding in the area of serials publication problems, which, as Stan pointed out this morning, reside principally in the science journals. Rich is very interested, and we are going to arrange a set of conversations between AAU, ARL, AAAS, and ACLS about how we might try to generate additional publications in the not-for-profit sector to provide the genuine, competitive alternative to publications in the for-profit sector.

After listening this morning to the discussion about some of the ways to attack the serial pricing problem I would urge you to proceed cautiously as an organization in trying to take on the tenure system. Before you begin advocating a reduction in the role of publication volume in tenure decisions, you need to determine how much of the increase in the number of articles published is a reflection of increased pressure on individuals to publish versus an increase implied by the number of individuals doing science. Publication pressure in science has been discussed not only in terms of economics–increased costs and numbers of journals–but also has been cited as a factor encouraging the abrogation of teaching for research. The issue of serial pricing has a number of ramifications, and ARL is certainly one of the organizations that ought to examine the issue of publication pressure. However, it seems to me that the strongest documentation generated by the ECS study was the role of commercial dominance of a captive market in the divergence of price from cost in some journals. That is an area where some conversations by some of the national organizations might yield real progress.

I believe Duane is doing a terrific job, and I will make a prediction that a number of years from now you will look back and think the Board's decision to appoint Duane as director was one of the best organizational decisions you made. I fully expect AAU and ARL to work closely on some of the issues I have spoken about in the future.

National Endowment for the Humanities

George Farr, Director, Office of Preservation

The new five-year preservation plan that the National Endowment for the Humanities submitted to Congress last year, which resulted in an increase of eight million dollars for the Office of Preservation in fiscal year 1989, reflected an attempt on our part to create a broadly-based national initiative that would, in time, support a variety of preservation activities across the country. Congress was especially interested to see how increased federal support could help address effectively the problem of brittle books. Our program requested the financial capability to enable NEH to make grants over the next five years that would have the cumulative effect of raising the annual rate of preservation microfilming to 175,000 volumes a year by 1993. If, after 1993, that rate is maintained for another fourteen years, the country would be able to preserve the knowledge that is contained in approximately three million volumes over a 20-year period. These figures exclude the amount that the Library of Congress, the National Archives, and other federal depositories might be able to save during this period.

The Endowment's five-year plan anticipates gradual increases in the Office of Preservation budget from our current budget of $12,300,000 to a budget of $20,300,000 in 1993. I should add, however, that Congress must approve each of these yearly increases over the next five years as part of their regular budget process. As it happened, by the time Congress approved this increase in the current budget for the Office of Preservation, there was only one more application cycle for preservation grants in fiscal year 1989. Nevertheless, thanks to a splendid response from ARL member libraries, we will be making grants this year to meet the target established in NEH's five-year plan for fiscal year 1989 (that is, to support projects that would raise the annual rate of preservation filming by NEH to 42,000 volumes a year).

We are accepting applications from individual libraries and library consortia for projects lasting up to three years that might entail expenditures of up to $2,500,000. These projects will focus on the task of preserving the knowledge contained in monographs and serials drawn from major subject holdings in the humanities. NEH will also continue to encourage applications for projects to preserve distinguished smaller collections of manuscripts and other of archival material. The Office of Preservation has tried to work closely with the libraries and library consortia that are drafting these applications because we understand these are extraordinarily complicated projects that place unusual demands on the libraries undertaking them. We also wish to provide a measure of coordination among these various projects to ensure a breadth of coverage in the subject areas that will be preserved.

The NEH program is not just a program for preservation of brittle books. We are fully committed to the preservation of other types of paper-based materials—manuscripts, documents, maps, newspapers, journals—as well as sound recordings, photographs, videotape and film.

In regard to the preservation of newspapers, our current national initiative to preserve United States newspapers on a state-by-state basis is progressing well. Thus far, thirty-six states have participated in one of the three phases of this program (planning, cataloging, or preservation microfilming) and when current grants that we have made to State projects are completed, over 161,000 new records of newspaper titles will have been entered into the United States Newspaper Program/Conservation database and approximately 38 million pages of endangered newspapers will have been preserved on microfilm.

Since we are actively encouraging applications for the preservation of special collections of materials as well as for monographic holdings, I trust that it is clear that there are a number of ways in which ARL libraries can apply and receive funding for the support of preservation activities.

From the first, the Endowment has taken the position that a successful national preservation program must not only be a matter of making grants for the actual preservation of a variety of materials, but must also be in a position to fund projects that will help "institutionalize" preservation activities across the country. We have therefore been involved in, and will continue to support, projects for education and training to increase the number of trained preservation personnel available to institutions. We will continue to support the activities of regional preservation services so that smaller institutions can get the kind of help they need to preserve their collections.

We will support research and development projects to improve preservation technology and procedures, or to establish standards for preservation practice. And, on occasion, we may fund projects that are designed to increase public awareness of the preservation problem.

At our December 1989 deadline (and at every subsequent deadline), the Office of Preservation will be accepting applications for a new type of grant that we hope will improve the capability of libraries to implement effective preservation programs. We will be offering stipends of $27,500 (the amount of money we give to a senior research fellow at NEH) that will allow an experienced librarian or archivist to enroll in the nine-month program at Columbia's School of Library Service. We would expect a library to nominate a member of its staff for this stipend with the understanding that the person selected would then return to the library to mount a new preservation program or to improve the scope and quality of an existing program.

We will also be encouraging, at the December 1989 deadline and thereafter, the development of statewide preservation programs. This past March, the Office of Preservation sponsored and funded a national conference on the development of statewide preservation plans. The Librarian of Congress, the Archivist of the United States, and the Chairman of the National Endowment for Humanities invited every state librarian, every state archivist, the heads of state historical agencies, and certain university librarians who have evinced a special interest in preservation within their states to attend a two-day conference in Washington. It would be fair to say that the results of this conference have been extraordinary. We have been told that not the least of the conference's accomplishments was that it provided an opportunity—often the first time—for many of these people to sit down and begin to talk about the preservation problems that face their states.

As a way of building on the momentum generated by this conference, the Office of Preservation will now accept proposals from individual states for grants to create statewide preservation plans. Our ultimate goal is to have a preservation plan in place in every state to facilitate a coordinated and cooperative approach to the preservation of the state's cultural resources. We hope that having such a plan will also allow institutions within a given state to speak with a united voice to the state legislature and to regional or local funding sources in regard to preservation needs. We are assuming that ARL libraries will be able to participate in these efforts in their own states and that they will benefit from these state-wide preservation plans.

None of what we are trying to accomplish on a national level for preservation is going to be easy. Simply having more money is not going to solve all the unprecedented problems that this level of preservation activity will entail. The challenge to us in the coming years will be, on the one hand, to implement as efficiently as possible the various components of this national preservation plan, while, at the same time, to build into this effort the willingness to take stock of what we are doing as we do it, so that we may be able to see whether what we are doing can be done better.

To maintain this stance, we are going to need your help, as individual libraries and in your collective identity as the Association of Research Libraries. ARL and NEH, have a long tradition of working together. We already have cooperatively brought into being the ARL Preservation Planning Program and the project to convert the *National Register of Microform Masters* into machine-readable form. I am sure we will be working together on more preservation projects in the future.

I have also had the opportunity to attend meetings of the ARL Committee on the Preservation of Research Library Materials and with the ARL Committee on Bibliographic Control. It is clear to me from attending those meetings that ARL has a significant contribution to make to the national preservation effort. The kind of recommendations that can emerge from these committees will help create the context required to make this national preservation effort move forward.

ACRL Standards for University Libraries

Kent Hendrickson, Chair, ACRL *ad hoc* University Library Standards Review Committee

My remarks will focus on the participation of ARL in the ACRL standards process. It took ten years to finalize those standards, which went through two or three committees with considerable debate.

Contact with ARL was first made by me to Shirley Echelman and we had several discussions. Two years ago in Pittsburgh, I met with the ARL Board and asked what participation level they desired. The Board asked that we report back to them, and that they have an opportunity to review all drafts. In September, 1987, I again met with the ARL Board. They had seen draft documents by that time and had considerable input, comments, and concerns. They suggested a number of revisions, which are reflected in the current document. At that same meeting Ted Johnson, who was then moving into the role of immediate Past President, was asked to serve a liaison to the committee. He saw every draft up until the current one, which was made final last November or early December.

The one major issue that I want to address is that of whether the standards should be qualitative or quantitative. That was the major issue facing the committee in the 1970s. In fact, at one point there were two committees. The first committee pulled out because they were pushing for a more prescriptive approach and could not win that battle. The current committee decided that neither approach was appropriate. When I went to the ARL Board in the fall of 1987, I thought we had a fairly solid document; but most of the criticism was that it was still too prescriptive and that there were a great number of "shoulds" that should be changed to "mays". Much of that was done.

There was a great deal of concern within ARL about the prescriptive nature of the standards, and so we held back. These ACRL University Library Standards have passed three levels of ACRL committee structure: the University Libraries Section Steering Committee, the ACRL Standards and Accreditation Committee, and the ACRL Board. We met this summer to go over the ARL standards and accreditation for their review.

Discussion

A Member: Could you help us understand the ACRL process? Is it correct that ACRL looks at its standards every five years?

Mr. Hendrickson: That is correct.

A Member: The major change for ARL is the expansion of the definition of "university" for these standards. Fundamentally, it is a much broader group of institutions.

Mr. Hendrickson: It represents those universities that are part of the University Library Section, approximately 225 institutions.

A Member: I was concerned that there is not an explicit statement about the role of libraries in academic planning.

Mr. Hendrickson: We saw this document as being part of academic planning, not as part of the problem.

A Member: I am speaking particularly of academic planning activities such as the development of new academic programs and curriculum plans. I find the 1979 ACRL standards still to be more constructive for purposes of this association's members than these proposed standards.

Mr. Hendrickson: I think the proposed standards and draft build on those 1979 concepts. The comparison of the standards prepared by Pat Brill considers those issues.

Mr. Webster: Again, let me review this process on which judgment is being reached. ARL has not been formally a part of the committee. We are not joined in this revision process. We have been kept closely informed both by Kent and by several of our member institutions' staff who have been a part of it. The Board has looked at each edition. They have commented and listened to some of the comments being made by members.

The Board wanted an opportunity to hear from members today in terms of sentiment and other concerns or support. They are going to take that under advisement and tomorrow at the meeting reach a judgment on whether or not to affirm or support the standards. If you have additional comments to make, I would urge you to talk to Board members directly.

A Member: At the second business meeting might we take some action to advise the Board?

Mr. Webster: That is possible.

National Research and Education Network

Michael M. Roberts, Vice President of Networking, EDUCOM

I am reminded of the days a decade or more ago when it was common for campus computing center directors to come before library councils to report on their failures to deliver on promises of automated library applications. Fortunately, we have moved on and can refer to that era as the "bad old days" as we face new challenges and opportunities together.

We can divide the evolution of the National Research Education Network (NREN) into three stages. Stage 1 is convincing people there should be such a thing. Stage 2 is determining what kind of network there should be. Stage 3 is developing and implementing the network. We have completed Stage l, are midway through Stage 2, and well into the beginning of Stage 3.

The EDUCOM Networking and Telecommunications Task Force (NTTF) produced a policy paper on the NREN last April. This document represents the consensus of much discussion among university and industry networking people over the past two years. The history of our work on the national network begins a number of years ago—EDUCOM has been active in university networking for almost two decades—but in 1987, we published a paper on goals and opportunities for a national research and education network. Most presidents and chancellors we consulted with in the months after our initial paper came out said that they agreed completely with its premises and asked, "What do you want me to do to help?"

We started working on the issues connected with a national network—part of the Stage 2 described above—and the policy paper shows that most of these issues do not revolve directly around technology, even though state-of-the-art technology is an essential ingredient in a successful national network. The national network began with the original research network of the 70s, ARPANET, which was sponsored by the Defense Department. We have moved in an evolutionary fashion to what is known as Internet. The Internet is a federation of academic and research networks which use compatible networking protocols, principally the TCP/IP software which was developed on the ARPANET. Although the Internet, especially that part of it which comprises the NSFNET, represents a great deal of progress in providing network access and services to many thousands of campus computers and well over a million users, it nevertheless suffers from many deficiencies. Newer technology, improved services, broader access, and more reliable operation are all clearly needed.

The game plan being followed in creating the national network envisions a three tier structure. The highest tier, mostly an interstate backbone network, would primarily be federally supported. The second tier is composed of regional and state networks. In the speech by the Governor of Rhode Island which immediately preceded this session, you saw the Governor's interest in the connections between and among technology, eduction, and economic development. I have heard in recent months virtually identical comments from the Governors of Ohio and Arizona. By combining state responsibilities for economic development with responsibilities for higher education, we will see a much larger role for the states as the network evolves. It will be important to engage the constructive participation of state departments of education who up to now have not been much involved.

The third tier of the network, and perhaps the most critical, is the campus networks. This, of course, is of great concern to librarians because your ability to provide an expanding range of bibliographic and database services to faculty and students requires a high quality, universally accessible network. This will cost a considerable sum of money, and I am very familiar from my own campus visits with the difficult straits in which both computer and library budgets currently find themselves. I offer no magic solution to this problem, but would suggest that the path to improved funding lies more strongly with efforts to make and demonstrate connections between networking and library automation goals and strategic institutional instruction and research missions, than it does with past efforts to displace labor costs with computer costs.

One final point is that we all seem to be adjusting our notions of roles in an academic future in which electronic information resources will have a larger and more important place in our institutions than they do today. One observation I would make —and I say this without a great depth of experience, having been in Washington only a year—is that you and your constituency are under-represented in public policy deliberations. Your members are the primary research bibliographic resource of the nation. You and your staffs represent the most expert body of knowledge about such resources. I do not believe that is recognized in Washington. The private sector has a lot of organizations with well-paid staffs in Washington, and they do an excellent job in informing the Congress and the Executive Branch as to their needs and desires concerning the provision of electronic information. I believe that ARL has the capacity to be equally visible and equally well regarded as the debate on national information policy continues, and that you will successfully fulfill an emerging role as the principal providers of information resources on the national network.

National Commission on Libraries and Information Science

Susan K. Martin, Executive Director

I am going to talk almost in outline form about two areas: the upcoming White House Conference on Libraries, and NCLIS activities.

First of all, how should one look at the White House Conference? One of the issues of the past was the concept that it should be a library-type conference, versus the concept that it should be a conference for the country at large, for the layman. Given the legislation, which says that seventy-five percent of the delegates must be other than library and information specialists, it is a conference which should be put on by professionals for the people of this nation. You could all be seeking to educate people in your own segments of the population regarding the issues that should be talked about and discussed—perhaps bring resolutions to the conference itself.

At this time, funds for the White House Conference have not yet been appropriated. The prospects for an appropriation are unknown at the moment. We are trying to get *some* funding, if not *all* the funding, in supplements sometime during this calendar year. There are members of Congress who are pushing for it; and if you feel strongly about it and wish to push your members of Congress to request or to support funding, please do so.

If we obtain funding in this calendar year, I would say that the conference can go forward according to the current legislation. We probably would be looking at the final week in September of 1991, which is the limit according to the legislation. If the appropriation slips and goes into the next year, it would present such a short lead-time for any kind of state-wide pre-conferences that we might request a technical amendment to the legislation; but that is all guesswork at this point.

Despite the fact there is no appropriation, the White House Conference Advisory Committee, which is a committee of thirty people appointed by the President, Senate, House of Representatives, and NCLIS, has met. There are two people yet to be appointed by the White House, but the twenty-eight who have been named did meet at their own expense. They elected a chair, Dan Carter, who is currently a member of the Commission. There are five subcommittees: funding, public relations, structure, pre-White House Conference activities, and the public-private sector. They have scheduled the next meeting for June 21, so it is going forward with relative speed even though there is no funding. The people from the library committee who are on that group are Stuart Forth, Dick Akeroyd, Bill Asp, Margaret Chishelm, Carmencita deLeon, Joan Ress Reeves, and Virginia Young.

A decision was made by the Commission at its last meeting in April about the organizational structure of the White House Conference in regards to the NCLIS staff. When there is an appropriation, there will be a staff. That staff will report to the chair of the White House Conference Advisory Committee, who will report to the Commission itself. There will be a liaison from the NCLIS staff to the White House Conference staff. That is not very much different from the last White House Conference. At the last White House Conference, Charles Benton wore three hats: chair of the Commission, chair of the White House Conference Advisory Committee, and chair of the conference itself.

Charles Miller has sent you all a memo regarding the need for libraries in ARL to be involved in the White House Conference. I was delighted that he did that and hope you will be able to take action on it.

In terms of NCLIS activities, I will mention several things that have happened or are going to happen in the relatively near future. In April, we cosponsored, with the American Association for School Libraries, an Information Literacy Symposium. We invited about twenty-five education organizations, such as the American Federation of Teachers, school principals, and the various subject organizations to talk about the role of information literacy in American public education, how public schools and public education in this country should be improved, and the need for resource-based learning; that is, learning that relies heavily on information, on school libraries, and on school librarians. They discussed how these educational organizations should accommodate that kind of learning in the future.

We were able to get unanimous agreement that this was the right way to go; and within a day and a half, we were able to coax an action plan out of the seventy-five people there. That action plan is now going back to the executive directors and presidents of the organizations with the hope that by the end of this calendar year, there will be a formal adoption by the organizations themselves of the action plan and some movement towards changing school systems and the way they work in the relatively near future. This is a big undertaking.

You are undoubtedly familiar with the publication called *Informing the Nation* that was published last year by the Office of Technology Assessment. We are holding a hearing on that report on July 13 in Washington. We are going to invite particular segments of the community, primarily people or organizations that were addressed in the report; but, of course, the meeting is open. The day-long hearing will be held at the D.C. Public Library. The Federal/State Cooperative System for Public Library Data Collection is continuing, with John Lorenz as coordinator. We expect to have statistics reported by more than forty-five states by July. This is the first year of an effort that is intended to be an ongoing systematic collection at the national level of public library statistics, something of course that ARL has been doing for decades, but public libraries have not done.

Our budget request went from the White House at an amount of $770,000. For those of you who know NCLIS, that is $20,000 above the legal appropriation level; and we are attempting to take steps to remove the cap from the authorizing legislation.

Let me just say finally that the importance of ARL participation in these activities cannot be overemphasized. State libraries are looking more and more at multi-type networking. It is extremely easy for the government or anybody doing funding from a national level to simply funnel money through the states; and if they funnel money through the states, they may forget there is anything out there other than state libraries and public libraries. If you want a piece of the action, as you clearly should have, you have to take an active role. Please do.

American Council of Learned Societies

Douglas Greenberg, Vice President

Mr. Webster: We were scheduled to hear from Douglas Greenberg, Vice President of the American Council of Learned Societies. But, as he is about to become a father today, he is not with us to deliver his report in person.

As you may know, three years ago Stan Katz came to ACLS as President. One of his requirements for going to ACLS was that his colleague, Doug Greenberg, would join him as Vice President.. In the three years they have been working together at ACLS, they have initiated a number of new directions. They have been very active in the area of research librarianship and have shown strong interest in working with ARL and other organizations interested in research libraries.

I would like to highlight two items Doug planned to report on. The first is the Research Library Committee, which is supported jointly by ACLS, the Social Science Research Council, and the Council on Library Resources. It has met three times, I believe. Doug was going to report on the current status of the committee, the issues it is addressing, and the directions it is taking. The December 1988 *ARL Newsletter* contains an extensive report of the committee's most recent meeting, which I attended. That report will give you a good sense of the membership of the committee, what it is interested in, its agenda, and the expected outcomes. The committee expects to work well into 1990. The group is working on a number of important issues of concern to all of us. We need to be aware of what they are doing and what might be coming out of that group.

The second item Doug would have mentioned is that next year's annual meeting of the American Council of Learned Societies will focus exclusively on the subject of research libraries, again demonstrating the ACLS's interest in working with and strengthening research libraries.

U.S. Department of Education

Ann Mathews, Director of Library Programs

I would like to talk about *Rethinking the Library in the Information Age*. We now have three volumes on the two-and-a-half year long project which has come to its conclusion. New discussion are starting because we are going on from the research round table of the National Science Foundation and some other groups in Washington; we have been working with them quite closely. Jerome Yavarkovsky and Duane Webster were very helpful to us because they chaired sessions at our February 1989 meeting which related to papers in Volume 3. This last volume in the series looks at building an infrastructure for library research that will continue the momentum of this project.

In terms of Congressional appropriations, the only part of our program which was cut at all in the last two years was Title II-B of the Higher Education Act (HEA). That is the research money as well as fellow trainees, and it was cut from $1,000,000 to $750,000, then cut a little bit more under the Gramm-Rudman Act. So you might want to be aware that your political action is very important in terms of keeping projects such as those under HEA Title II-C funded.

Projects that were funded under the new HEA Title II-D, which has just finished its first year, almost four million dollars for technology application for total public and private higher education institutions. It is a very interesting piece of legislation.

Over the last ten years of funding for Title II-C, $64.2 million has been appropriated, and 87.5 percent of that money has gone to ARL member institutions. You can take great pride with that. We welcome your input on better ways to analyze that data and we appreciate the opportunity to look at better ways to analyze the impact of the monies which Congress has appropriated over the years and to see where we want to go in the future.

We are looking at where we want to go with research monies. We have to further direct information and library research. We would like a more formal way, perhaps, of keeping discussions open. We would like to get a group going which would meet twice a year on a formal basis perhaps, an *ad hoc* committee of two to three people interested in research. We have to look at how we are using this money productively, and how we tie together our libraries.

Library of Congress

Ellen Hahn, Chair, Management and Planning Committee

I have brought two of seven volumes of the report of the transition teams at the Library of Congress, which are following through on the recommendations of the Librarian's Management and Planning Committee. The fifth and seventh volumes represent what we are calling "Constituent Services" and "Collection Services," the parts of LC's operations that are of greatest interest to ARL members. These two draft plans were recently completed and presented to the Library's Transition Team. We were able to complete our internal process and begin a period where we will be intensively seeking reaction and input from the Library's constituencies as to what we have done so far. We hope that it will be possible, although the time period is brief, to have some examination of what we are proposing by way of goals and strategy action plans, draft reorganization targets, and a number of other things that are in those two reports.

The five other reports are available to you from the ARL office. Those reports are further along in the process, less controversial and probably less meaty in terms of the national library community; but if there are people who wish to examine the library management services, copyright services, the special projects office, congressional services, and cultural services, I will be glad to make those available.

If there are specific questions, I will be glad to answer them; otherwise, I will turn it over to Duane and Jeff Gardner to figure out a strategy for communicating to membership.

BUSINESS MEETING, SESSION II

[President **Charles E. Miller** (*Florida State University*) convened Business Meeting, Session II at 3:30 p.m. on Thursday, May 11, 1989, at the Omni Biltmore Hotel, Providence, RI]

Background to ARL Planning Process

Mr. Miller opened the afternoon business meeting with a brief overview of the planning process to date. He discussed five building blocks for creating a new ARL strategy, which is intended to enhance membership involvement and commitment to a shared purpose.

The first building block was the work of the Task Force on Responsiveness to Membership Needs, chaired by **Kenneth Peterson** (*Southern Illinois University*). This task force, which reported to the membership at the 111th meeting in October 1987, produced a series of recommendations to ensure that association activities are relevant to member needs. The second building block was the creation of new mission statement, approved by the ARL Board in February, 1988. The third building block is the work of the Task Force on Review of the ARL Five-Year Plan. After discussions held at the 112th meeting in May 1988, the task force developed recommendations to be presented at this meeting. The fourth building was the Task Force on Financial Strategies, which examined historical and current financial practices, and will recommend a set of principles to guide ARL's financial planning in its report at this meeting. The fifth building block is the work of the ARL Executive Director, Duane Webster, whose close work with the Executive Committee and task forces, along with the ARL staff, ensure that ARL's programs reflect member needs and interests.

Report of the Task Force on Review of ARL'S Five-year Plan

Elaine Sloan (*Columbia University*) presented the report of the Task Force on Review of the ARL Five-year Plan [see Appendix A]. The group sought endorsement by the membership for the revised ARL mission statement. After some discussion, the membership approved the following mission statement for the Association:

> The mission of ARL is to identify and influence forces affecting the future of research libraries in the process of scholarly communication. ARL comprises the libraries that services major North American research institutions and operates as a forum for the exchange of ideas and an agent for collective action. ARL programs and services promote equitable access to, and effective use of recorded knowledge in support of teaching, research, scholarship, and community service. The Association articulates the concerns of research libraries and their information policy development, and supports innovation and improvement in research library programs.

Ms. Sloan then outlined a process for developing strategic responses to current issues, which the task force calls "strategy forums." The task force report introduces the concept, but leaves the details to be worked out by the ARL Board of Directors and staff. The first strategy forum is scheduled to be held during the October 1990 meeting. Group discussion focused on retaining flexibility in planning such forums so that they can be an effective means of responding to current issues. If papers are to be prepared for a strategy forum, they should be less formal, and more issue-oriented. The members indicated affirmation for the concept, and planning will continue for the first forum.

Ms. Sloan indicated that there will be a report to membership at the October 1989 meeting on the Executive Committee's review of ARL objectives.

Report of the Task Force on Financial Strategies

David Bishop (*University of Illinois*) presented the report from the Task Force on Financial Strategies [see Appendix B], which is intended to provide the basis for ARL financial planning during the next five to ten years. The report is in two parts: a set of assumptions, and a set of principles.

Before asking for endorsement of the report from the membership, Mr. Bishop made an editorial change to Principle 7. It was changed to read, "A member-generated reserve should be created over a number of years." The change, which deleted a reference to a planned surcharge, was made to provide flexibility for the Board in deciding how the reserve should be created. Mr. Bishop pointed out that endorsement of the principles does not commit the membership to specific actions. If endorsed, however, the principles will influence the Board in the construction of future budgets and development of specific proposals.

A question on Principle 8, led to a discussion about cost recovery versus recovery of cost plus a fixed percentage, which would enable the association to create a reserve. Both Mr. Bishop and Mr. Webster expressed concern that such a policy would be too restrictive, and limit the ability of the association to disseminate information at cost when it is in the best interests of ARL.

Questions about what amount constitutes an adequate reserve were addressed by Mr. Bishop, who indicated that an amount equal to six months of the operating funds would be considered a responsible reserve. He stressed, however, that such details are not the province of a set of principles, which are meant to be guidelines only.

The membership approved the task force principles.

Report of the Committee on ARL Statistics

Thomas Shaughnessy (*University of Missouri*) discussed the committee's report, "Future Directions for the ARL Statistics." Mr. Shaughnessy acknowledged the contributions of **Carol Turner** (*University of Florida*) on methods of counting government publications and **Kendon Stubbs** (*University of Virginia*) other resources in ARL libraries. He also indicated that both the *ARL Statistics* and the *ARL Annual Salary Survey* were published according to schedule this year.

Mr. Shaughnessy discussed the supplementary statistics questionnaire to be distributed along with the annual ARL statistics questionnaire for 1988-89. The supplementary questionnaire will request information on library resources that have not been counted in previous statistics reports; i.e., databases, archival material, audiovisual material, manuscripts, and government publications. The supplementary questionnaire will be used for several years to enable libraries to begin to collect such information before these data elements are added to the regular statistics. The supplementary questionnaire can be submitted separately at a date later than the standard questionnaire if necessary.

Mr. Shaughnessy also addressed the committee's exploration of access measures. The committee plans to distribute a letter to the membership that will summarize its thinking on access measures and solicit written responses on measures of accessibility. He noted that the committee is working with ALA's Office of Research in this area of study.

Group discussion focused on whether the traditional concept of counting only those items that are cataloged was now inadequate. Mr. Shaughnessy indicated that the committee believes the supplementary questionnaire can serve as a pilot project to see if libraries have data available on materials not usually counted for the ARL statistics report. Libraries have indicated that they want such material to be reflected in the *ARL Statistics*; the supplementary questionnaire is a means to do that. Mr. Shaughnessy assured membership that the results of the supplementary survey would not be publicly disseminated, but sent only to members.

Summary of Current Topics Sessions

Serials Prices. Instead of a report on the current topic session, this portion of the meeting was devoted to continuing discussion of the report of Serials Prices Project that began in Session I of the Business Meeting (see pp. 45-49). **Susan Nutter** (*North Carolina State University*) presented a motion on serials prices, which read:

> "The members of the Association of Research Libraries are prepared to launch a multi-faceted program aimed at mobilizing the scholarly, scientific, academic, and research libraries communities to address this major issue."

After a suggestion from the floor that the government be included as a participant in the process, Ms. Nutter amended the motion to include the words "...appropriate governmental bodies...." The membership approved the following resolution, which was forwarded to the Board along with the committee's recommendations.

> "The members of the Association of Research Libraries are prepared to launch a multi-faceted program aimed at mobilizing the scholarly, scientific, academic, and research libraries communities and appropriate governmental agencies to address this major issue."

[See pp. 64-65 for further Membership action on this issue.]

Preservation Microfilm. William Studer (*Ohio State University*) reported on this session. It began with a presentation by **Patricia Battin** of the Commission on Preservation and Access, of a possible model for an inter-institutional storage and distribution facility for preservation microform masters. This facility is only a concept, but the group came to a consensus of support for such a centralized storage center. With the growth of preservation microfilming programs, aided by funding initiatives such as grants from the National Endowment for the Humanities, the number of microform masters will increase dramatically over the next twenty years. Centralization of storage and access were seen as desirable by group participants.

Other issues discussed included:

- What will be the role of ARL in shaping plans for inter-institutional storage and distribution? Since ARL libraries will likely be the major producers of microform masters, they must also be primary determinants of storage and access methods.
- Would such a storage and distribution facility be better set in the for-profit or not-for-profit arena? The Council on Research Libraries' current study on cost factors was mentioned.
- What governance system would be used for such a center?
- How will copyright law affect a centralized collection of microform masters? Who would handle copyright compliance?

Telecommunications Networks for Research. **Paul Gherman** (*Virginia Polytechnic Institute*) presented a report prepared by **Nancy Cline** (*Pennsylvania State University*) on the session, which included a videotape on the "National Research Network" produced by MCI and the University of Michigan. **Henriette Avram** of the Library of Congress, **David Bishop** of the University of Illinois, and **Michael Roberts** of EDUCOM gave presentations.

Issues discussed included:

- The current debate over standards–TCP/IP and OSI;
- State and regional responsibilities within the national network;
- The opportunity for the library community to develop guides which would describe the resources available on the national network and how to access them;
- How copyright may affect material available on the network; and
- The need for libraries to rethink their roles, in light of new technologies such as the national network.

Electrocopying. **Barbara Von Wahlde** (*SUNY-Buffalo*) reported on this session, which considered such electrocopying activities as faxing, scanning, and downloading. **Susan Brynteson** *(University of Delaware)* discussed her experiences at the University of Delaware with contracts to add access to commercial databases to their online catalog. **Paul Mosher** (*University of Pennsylvania)* spoke about the Copyright Clearance Center. Barbara Von Wahlde reported on SUNY-Buffalo's Title II-D grant on facsimile usage.

Concerns were raised in the discussion group about what ARL's posture on these issues should be. It was suggested that ARL develop a list of issues for research libraries to consider when entering into a licensing agreement for copyrighted information.

ACRL Standards

Following discussion during Session I of the Business Meeting (see pp. 54-55), the membership voted to recommend that the Board endorse the process used by ACRL to review the Standards for University Libraries.

Serials Prices Project

Following discussion in Session I of the Business Meeting (see pp. 45-49), a motion was presented from the floor which proposed that the membership was willing to accept a supplementary dues assessment to fund the serials prices project.

> It is the sense of the membership that the issue of serials prices is of such a critical nature that we would support a supplementary dues assessment in order to expedite association action.

The motion was proposed in order to demonstrate the membership's awareness of the critical nature of the serials prices issue and the necessity for decisive action. An amendment to make the assessment voluntary was presented. Much discussion ensued, centering on several issues:

- whether pursuit of outside funding would delay action;
- whether a dues assessment would be contrary to the principles presented earlier as part of the Task Force on Financial Strategies;
- whether providing funding from the ARL membership would discourage outside entities from funding the effort; and
- whether a voluntary, rather than a mandatory, assessment would sufficiently demonstrate membership's commitment to the project.

The amendment for a voluntary assessment was defeated; the original resolution was passed by the membership.

Telecommunications Task Force

Mr. Miller briefly reported that the Board will establish a task force on telecommunications to look at issues in educational and research telecommunications and recommend possible ARL actions.

ARL Financial Planning

Mr. Miller reported that plans for improved fiscal control and establish program priorities will be a major agenda item for the July 1989 ARL Board Meeting.

APPENDICES

ASSOCIATION OF RESEARCH LIBRARIES

APPENDIX A

REPORT OF THE TASK FORCE ON REVIEW OF THE ARL FIVE YEAR PLAN

EXECUTIVE SUMMARY

The Task Force recommends a changed mission statement for ARL that reflects the distinct role of the Association within the changing environment of research universities and libraries, builds on the traditional values of ARL, and fulfills the new vision statement adopted by the Board in 1988. The proposed new mission statement is:

> The mission of ARL is to identify and influence forces affecting the future of research libraries in the process of scholarly communication. ARL comprises the libraries that serve major North American research institutions and operates as a forum for the exchange of ideas and an agent for collective action. ARL programs and services promote equitable access to, and effective use of recorded knowledge in support of teaching, research, scholarship, and community service. The Association articulates the concerns of research libraries and their institutions, forges coalitions for cooperative action, influences information policy development, and supports innovation and improvement in research library programs.

The Task Force also identified a desire and need for the wide involvement of Directors in the identification of critical decisions facing research libraries before the end of the century, and development of possible responses. Toward this end, a recommendation is made to convene Strategy Forums in a redesigned October 1990 Membership Meeting. Individual ARL directors, Standing Committees, the Board, and ARL staff would all be asked to identify issues to be addressed as part of the Strategy Forums. The result would be strategic direction papers that represent ARL findings of the critical choices facing libraries. The papers would be for member library use and also would clarify strategic responses by the Association.

NOTE: The Board approved the new mission statement and the proposal for Strategy Forums at its meeting in February. Membership is asked to vote on endorsement of the mission statement. Discussion of the concept of Membership Strategy Forums is encouraged.

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I. BACKGROUND

The Environment of Research Universities and Libraries

Research universities and their libraries are at crossroads. The technological revolution now in progress offers extraordinary opportunities for innovations on every front: instruction, research, and scholarly exchange. Capitalizing on these opportunities while preserving traditional academic values and strengths is the challenge of the 1990's.

The Association of Research Libraries enjoys a distinct niche in the everchanging mosaic of organizations representing higher education and scholarly communication constituencies. As the representative of 119 research libraries, it possesses access to the key information executives in research institutions throughout North America. This results in an ability to focus attention on the crucial issues affecting the development of research libraries.

Research libraries now face serious problems. The lure of information technology in the academic setting is attracting the attention of commercial and entrepreneurial agents with different interests and objectives. The ability of research libraries to acquire and provide access to a significant percentage of recorded knowledge is challenged by mushrooming costs of materials, the proliferation of formats in which information is distributed, and fundamental changes in the way knowledge is created and made available.

National information infrastructures are being created or modified without sensitivity to the importance of research libraries as the document base for providing timely convenient access. Users are acquiring new expectations for library performance and are impatient with delays and obstacles to ready access. Nearly 80 million books in North American research libraries are threatened with destruction due to the acidity of the paper on which these items are printed. The work force comprising research libraries needs modernizing through attraction of new talent, the provision of fresh developmental opportunities, and avenues for advancement and contribution. And the task of enabling students and researchers to be able and imaginative users of information and knowledge is only beginning to be addressed on most campuses.

The recommendations in this report for ARL do not presume to resolve the myriad of problems noted above. ARL is but one player on an increasingly diverse and fascinating stage. The events unfolding over the next ten years call for clarification of the leadership role ARL may best be able to perform. At the heart of this role is the ability of the Association to focus attention on the handful of issues which serve to shape the future of research libraries.

The recommendations in this plan seek to establish a framework for surfacing these issues, developing understanding and consensus among ARL directors and mobilizing concerted action to influence future directions. The plan seeks to strengthen two elements crucial to this mobilization: the means for engaging ARL directors in strategic consideration of future directions and maintenance of a dynamic set of Association capabilities.

ARL Values and Vision

There are certain basic values within the ARL enterprise that continue to be essential elements of Association success. ARL's mission and future strategies must build on and extend these values. Enduring beliefs that bring together Association members in common cause are:

- Open and equitable access to information is a fundamental tenet of our society.
- Research libraries are active agents central to the process of transmission and creation of knowledge.
- Research libraries have a responsibility to anticipate and prepare for the information needs of present and future users.
- Collaboration among libraries improves the prospects for individual library success in fulfilling local needs.

In 1987, ARL President Elaine Sloan initiated a set of discussions resulting in the construction of a Vision Statement which portrays future aspirations for the Association. The statement was reviewed by ARL members and adopted by the ARL Board of Directors in February 1988. The Vision Statement defines ARL as an organization to focus attention on the key issues which will shape the future of research libraries and identified the following roles for ARL:

- provide a forum for exchange of ideas and perspectives,
- undertake and influence information policy development,
- serve as a spokesperson for research libraries,
- serve as an agent for change and collaborative problem resolution in the scholarly setting, and
- provide management services for research libraries.

These roles are interdependent and flow among each other. They reflect both historical strengths as well as distinct choices in what the Association should not attempt.

The Vision Statement acknowledges diversity of need and interests among member institutions, identifies these special interests as legitimate concerns for defining ARL programs and services and for ARL policy setting procedures.

The new vision suggests adoption of an operating premise for ARL that emphasizes establishment of ties with constituencies external to librarianship. Alliances and coalitions with other organizations have always been seen as a valuable component to effective ARL action. What is new is that this strategy is now critical due to the nature of the environment of research libraries. ARL links into higher education and scholarly society organizations is viewed as essential in order to effectively address library programs that are interrelated with those of other units within research institutions.

The Vision Statement closes with a call to revisit the ARL mission and objectives, review Association leadership roles, and refine ARL governance and organizational structure. The Task Force used the Vision Statement as a point of departure for the recommendations made in this report.

II. ARL MISSION

According to Understanding Applied Strategic Planning: A Manager's Guide, in formulating its mission, an organization must answer three primary questions: (a) What function does the organization perform? (b) For whom does the organization perform this function? and (c) How does the organization go about filling this function? The statement of mission should present the basic reason for existence of the organization and identify the organization's major, strategic driving force.

The current mission statement and a proposed new mission statement were analyzed with this framework in mind. In making this assessment, the Task Force considered the uniqueness of ARL, i.e., what makes ARL different from its members and other similar associations or consortia.

Analysis of Current ARL Mission

Current Mission Statement

> The mission of the Association of Research Libraries is to strengthen and extend the capacities of its member libraries to provide access to recorded knowledge and to foster an environment where learning flourishes, to make scholarly communication more effective, and to influence policies affecting the flow of information.
>
> The members of the Association of Research Libraries are libraries whose primary functions serve scholarship and research. Operating within a complex system of scholarly information exchange, these libraries meet their responsibilities by: collecting and preserving research materials, providing access to materials and information held locally or stored elsewhere, playing an effective role within the entire system of scholarly communication, and influencing policies that affect access to recorded knowledge. The Association provides a means for member libraries to engage in cooperative effort and corporate action to extend these functions.

The current ARL mission statement meets the basic requirements of a mission statement. It focuses more on the mission of member libraries than on a distinctive mission for the Association, and thus may introduce ambiguity to the question of what is unique about ARL's contribution. The current mission does respond to the analytical questions posed earlier.

WHAT?	to strengthen and extend capacities of member libraries [in order that they may] provide access, foster an environment etc.
WHO?	member libraries.
HOW?	cooperative effort and corporate action.

CONCLUSION: The most important driving force in the formulation of the current ARL mission seems to be the functions of research libraries.

Recommendation for New Mission Statement

The mission of ARL should reflect more directly the vision of ARL as an organization bent on enhancing the performance of research libraries as they face the challenges and tensions of a changing environment, and as an organization engaged in forging the coalitions that are of immediate or potential importance to member libraries and institutions. ARL's mission should be revised to acknowledge the larger community of which research libraries are a part, and the importance of preparing for the future in this environment.

Proposed Mission Statement

> The mission of ARL is to identify and influence forces affecting the future of research libraries in the process of scholarly communication. ARL comprises the libraries that serve major North American research institutions and operates as a forum for the exchange of ideas and an agent for collective action. ARL programs and services promote equitable access to, and effective use of recorded knowledge in support of teaching, research, scholarship, and community service. The Association articulates the concerns of research libraries and their institutions, forges coalitions for cooperative action, influences information policy development, and supports innovation and improvement in research library programs.

The proposed revision is broader and more ambitious than the current statement. It focuses on the wider concerns of research institutions, scholarly exchange and the prospective contributions of research institutions and their libraries to this exchange. Responses to the analyical questions are:

WHAT?	identify and influence forces affecting the future of research libraries and the process of scholarly communication.
WHO?	member institutions and their research libraries
HOW?	identify key issues, stimulate discussion, develop policy, represent research library interests, provide membership development services, build coalitions, and take collective actions.

CONCLUSION: the most important driving force in the formulation of this mission is the development of programs and services to influence the environment of research institutions.

III. DEVELOPING STRATEGIC RESPONSES

Summary of Recommendation

The Task Force recommends the convening of Strategy Forums to involve ARL Directors in identification of the most serious questions facing research libraries and development of possible responses by individual libraries or by combinations of libraries at the regional, national, or international level. Identification of the questions and a range of responses will provide a foundation for guiding ARL projects and programs and will relate to the work of standing committees, see below.

Time would be set aside for these Forums at a redesigned Fall Membership Meeting; background papers would be prepared in advance to help support a thoughtful review of the issues identified; and directors would be called upon to examine issues on both an institutional and global level.

The result of the Strategy Forums will be strategic direction papers that represent ARL findings of the critical choices facing libraries and possible responses. The papers will specify immediate problems in each decision area, future prospects and environmental changes expected, policy development requirements, and a research agenda. In addition to producing reports for member library use, the results will clarify strategic responses by the Association.

Role of Standing Committees

In anticipation of the Strategy Forums, Standing committees will be asked to identify critical issues to be addressed. During and after the Forums, the Committees will be asked to make an assessment of ARL activities within the context of the long range strategic directions suggested by the Forums. Standing committees are: Bibliographic Control, Collection Development, Government Policies, Management, Preservation, and Statistics.

Proposal: Strategy Forums on Problems, Prospects, Policy, and Research

The following process is proposed.

1. Based on past and present recommendations by committees, and advice from staff, the ARL Board will identify the broad arenas within which research libraries and their constituencies will need to make decisions or take action in the next 3-5 years. These areas of concern will form the initial outline for the Strategy Forums. (See Attachment 1 for example and elaboration.)

2. Development of a background paper for each area of concern.

3. Organization of the Fall Membership Meeting into working forums to discuss the papers and secure agreement on the critical questions and possible responses.

4. The strategies resulting from the forums and from committees would form the basis for Board review of ARL activities and the development of new initiatives.

5. The ARL Executive Committee would oversee allocation of funds to operate forums and ARL staff would coordinate activities and report on progress.

The area of services to users, for example, may include: innovation in traditional public services; the changing role of bibliographic instruction; changing patterns of user behavior with the introduction of new technologies; possible new organizational patterns among staff in public services; and, user rights and responsibilities.

The area of library operations might include: assessment of library performance and effectiveness in the environment of electronic gateways and remote users; recruitment of needed capabilities to the profession; alternatives and outcomes assessments; costs analysis; and, alternative budget approaches to the provision of access to information.

The area of role and relationships in higher education may include: changing campus views of computers and information access; instructional technologies and library/information access; working with educational technology specialists; organizational alternatives for provision of campus information resources; ARL, other professional organizations, and the development of higher education information policies; trends in higher education and ARL universities.

Anticipated Outcomes

The Strategy Forum process would complete a matrix of broad topics examined through a structure of developmental questions.

Area of concern	Key Questions			
	Problems	Prospects	Policy	Research
a. Research Collections				
b. User Services				
c. Operations and Performance				
d. Role and Relationships in Higher Education				

The outcome of the assessments would be made available for ARL member library use and would also be related to Association programs and committee, task force, and staff activities.

IV. IMPLEMENTATION

Timetable

It is anticipated that the initial Strategy Forum meetings would be convened at the October 1990 Membership Meeting. ARL staff will be responsible for design of the forums.

Future Follow-up for ARL Planning

The Association now follows an annual review of Plan tasks associated with each objective and a five year cycle of reviewing objectives and mission. If the recommendation for a revised mission endorsed in May 1989, the ARL Executive Committee will undertake a review of Association objectives, with a report to Membership anticipated in October 1989.

In addition, the planning cycle should be adjusted so that the next review of the mission statement would come ten years from now at the end of the decade, in 1999. The review at that point should assess relevance of the mission to the broad continuing needs and interests of members.

Respectfully Submitted by the Members of
the Task Force on Review of the ARL Five Year Plan

James Govan
Marilyn Sharrow
Elaine Sloan
Kaye Gapen, Chair
Duane Webster (ex-officio)

14351
April 1989

ATTACHMENT 1

Strategy Forums on Problems, Prospects, Policy, & Research

The following illustrates how the Strategy Forums might be organized. For example: future decisions facing research libraries may be grouped in four broad areas of continuing concern to directors: a) research collections, changes in format, and the future availability of recorded knowledge, b) user services and the impact of new technology, c) library operations and improving productivity, and d) library roles and relationships within higher education. Each topic would be reviewed to describe the current situation and make four assessments, including:

- Problems
  What are the most important immediate problems facing research libraries in this area? Is there a need for better information concerning the nature of these problems or the way research libraries are addressing them? Are there causal factors that should be addressed collectively?

- Prospects
  What are the primary questions facing the future development of research libraries in this area? What are the changes expected in the larger environment of scholarly exchange? What directions is educational technology likely to take? What time frame should be used for planning on a local impact for larger environmental changes identified?

- Policy
  Are there specific issues that deserve preparation of a formal policy position by the Association? Are there gaps in the present policy structure of ARL that need to be addressed? What policies should be developed in concert with external constituencies?

- Research
  What issues require further study and analysis through a process of research? What would ARL recommend to foundations interested in supporting experimentation and development? What should be addressed by direct sponsorship in an ARL research project?

Background Papers on Issues

Each broad topic would be analyzed to identify key issues calling for decisions and action by research library leaders in the next 3-5 years. This would be achieved through the development of a background paper for each forum. Each paper would be jointly prepared by an ARL staff person working with a carefully chosen expert. The topics would vary in scope and urgency.

For example, the area of research collections may include: organization and description of print based and electronic collections including non-MARC and full text files; preservation of recorded knowledge; allocation of funds to material acquisition and access to information; accreditation standards and the changing library collection; changes in the publishing industry including marketing, standardization, privatization, royalties and licensing, etc.; and, the collection policy and electronic gateways, including selection evaluation methodologies.

ASSOCIATION OF RESEARCH LIBRARIES

A VISION STATEMENT FOR THE ASSOCIATION OF RESEARCH LIBRARIES

Research libraries are an integral, dynamic part of the changing worlds of higher education and information. They are a core element in extending the route from scholar to recorded information. For centuries the repositories of paper documents, research libraries have also become gateways to electronic information resources. They are a vital component in the research enterprise.

The mission of the Association of Research Libraries will reflect and enhance the performance of its member research libraries within this changing environment. Building on past achievements and strengths and a continuing commitment to promote research library interests and meet the needs of its member libraries, ARL's roles and objectives in the research enterprise will be visibly proactive and purposeful:

- As a leader in forecasting, identifying, and articulating significant issues, ARL will provide a forum for exploring a variety of points of view and stimulating new ideas.
- As an active policy-maker, ARL will bring together information resources, expertise, and the views of its members to analyze, formulate, publicize, and advocate policy on issues of vital concern to research libraries and their users.
- As a forceful voice for research libraries, ARL will carefully select and vigorously promote positions, policies, legislation, and programs that improve and extend access to scholarly information.
- As an assertive agent for change and problem-resolution, ARL will be an active participant in the higher education, research, library, information, and scholarly communities.
- As a vital resource for its members, ARL will develop, and provide management information and techniques that contribute to the effectiveness of ARL libraries.

The success of ARL member libraries both individually and collectively is an important contribution to scholarship and research. Because individual library success is valued, special interests within the Association will at times be viewed as worthy of the Association's attention. Where institutional interests are affected adversely by a proposed ARL action or policy, these interests will be recognized and addressed. Fundamental principles guiding the resolution of differing positions will be ARL's mission and objectives, acknowledgement of the validity of members' competing commitments, and above all, shared concern for the prospering of each of the Association's individual member libraries. Priorities will be driven by a desire to achieve the Association's purposes, and issues receiving attention will be those of utmost importance to the continuing success of member libraries.

(over)

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Membership responsibility includes a commitment to bring issues to ARL and participate in a process of constructive discussion and analysis. The Association will provide an array of methods for members to raise ideas and to spark action. A respect for diversity of member library needs will be reflected in flexible committee structures and meeting schedules that provide opportunities for groups of members to address a changing agenda of common problems. Members will invigorate ARL's agenda continually, and the "ARL culture" will be one of lively, creative, and purposeful discussion.

The Association will be structured and organized to take best advantage of the strengths of the staff. Thoughtful role definition and assignment of authority will enable a talented staff to be active, visible, and quickly responsive to changing issues and interest. Association staff will be alert to emerging issues and opportunities and will be expected to help analyze and shape policy. Areas and levels of staff responsibility will be significant, encouraging initiative and accomplishment on behalf of the Association.

Achieving ARL's refocused vision requires changes in all parts of the Association. It necessitates a review of the roles and operations of the Board, the Executive Committee, standing Committees, and the Secretariat. It requires a careful refinement of the Association's governance, organizational structure, communication patterns, meeting styles, and relations with other organizations. It is also time to revisit the statement of Mission and Objectives formulated in 1983. Attainment of the vision will press ARL to build on strengths and refocus capabilities; it will not necessarily require additional resources. One requirement, however, is essential—the determined commitment of the directors of ARL member libraries to make this vision a reality.

Adopted by ARL Board of Directors
February 1988

10/8/87
Rev. 2/88

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ASSOCIATION OF RESEARCH LIBRARIES

APPENDIX B

Association of Research Libraries

Task Force on Financial Strategies Report

Task Force Members:
Charles Miller
Carlton Rochell
Elaine Sloan
Duane Webster (ex officio)
David Bishop, Chair

The nature of the Association of Research Libraries has changed significantly over the past twenty years. ARL has moved from providing a forum for Library Directors to discuss issues of common concern, to assuming leadership roles areas and becoming an important voice for research librarianship in North America.

ARL has undertaken a number of new initiatives in the past two decades. The first catalyst for changing the organization was probably the creation of the Office of Management Services. This change began the transformation of the Association from passive to active. More recently, a major area of increased activity has been government relations. The Association has become a major advocate for U.S. research Libraries in federal relations. Also, ARL has acted to represent research library interests in the higher education and scholarly communities. The Association is becoming a full partner in this enterprise by making the needs of research libraries known to these communities. Finally, the Association has assumed responsibility for a number of special projects. Examples include: the retrospective conversion project; the serials pricing project; and managing the National Endowment for the Humanities grant to convert records of microform masters. These recent accomplishments depict ARL as a significantly different organization than it was twenty years ago.

Analysis of dues and the dues structure over the same time period shows the financial impact of ARL's more active role. Dues increases over the last ten years have been significantly greater than during the preceding ten years. From 1969 through 1978, dues increased by 56%, while in the most recent ten year period, dues increased by 147%. Taking into account a special assessment collected in 1988, that increase rises to 155%. The period of greatest increase was from 1980 through 1984, when dues increased by slightly over 100%. During this period, ARL felt most the financial implications of its changing role.

Growth in dues was linked inversely to growth in membership. From 1969 through 1978, membership grew by 23.5% while from 1979 through 1988 membership grew by only 7.3%. The decline in the growth of membership has likely been a factor in the need to have larger dues increases during the past ten years.

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The purpose of this report is to propose an overall strategy that will provide financial guidelines for membership during the next five to ten years. The goal is to place increases in dues and growth of activity in a context that is understood and agreed upon by the membership.

The following assumptions may be articulated as a basis for developing financial guidelines.

1. ARL is an association of research libraries rather than one of research library directors. The benefits of ARL membership accrue primarily to research libraries and their users.

2. As a result of recent dues increases, the Association's current budget is adequate, assuming current levels of activity.

3. To maintain the current level of activity, annual increases in dues, probably at least at the rate of inflation, will be required. This is because ARL expenses consist primarily of salaries, communications, and travel costs. Also, member dues constitute 92% of the annual budget.

4. Growth in membership is not a desirable means of improving the financial health of ARL or of reducing increases in dues.

5. ARL not only must have the capability to meet ongoing commitments, but also must have some reserve capacity to allow for timely responses to unforeseen events.

6. While efforts should be made to attract organizations and individuals willing to donate unrestricted endowment funds to ARL, the likelihood of such finding is so remote that it can not be a primary financial strategy.

7. Because permanent reserves provide financial stability and allow an organization to respond to extraordinary events, a member generated reserve is needed.

8. Transferring costs, which are incurred equally by all members, from dues to fees is not a desirable financial strategy. An example of this is charging a registration fee for attending meetings. Fees of this type would incur collections costs, could discourage attendance at meetings, and would reinforce the perception that ARL is a library directors' organization.

9. Reducing dues increases by asking Board and committee members to absorb meeting costs is an undesirable strategy. Asking members to absorb these costs could discourage participation, particularly by directors from smaller libraries and from libraries in remote areas.

10. Having the Office of Management Services receive base support from ARL dues and then build on that base support by charging fees and soliciting grants is an appropriate long term financial strategy.

11. Products and services may be provided to non-members assuming that the provision of these products and services does not detract from the ARL mission.

12. The pursuit of grant funding for specific projects and programs is an appropriate financial strategy.

Following is a set of general principles which will serve as a basis for the financial planning of the Association of Research Libraries for the next five to ten years.

1. Because the ARL annual budget is adequate for the current level of activities, future increases in dues will be in the range of inflation unless there are increases in programmatic activity.

2. Increases in programmatic activity that have significant financial implications for use of member dues should receive prior approval by the membership. Members should understand the dimensions of major new programs, their financial implications, and the length of time of any financial commitment.

3. Periodic reviews of all ARL programs with financial implications should be conducted to be certain that each program is of a high enough priority to warrant continued support.

4. Program and committee budgets should be prepared and approved prior to the beginning of the year so that it is possible for the Association to avoid unplanned deficit spending.

5. Special assessments should be avoided in all but the most extraordinary cases. These assessments make planning by member institutions difficult. It is often impossible, because of the infrequency of Association meetings, to have the merits of these special assessments fully debated.

6. Because many issues, such as journal price increases, can not be anticipated, a reserve of staff capacity or the ability to alter priorities quickly should exist.

7. A member-generated reserve should be created over a number of years. This reserve or the income from this reserve would be used to meet special needs and to provide the Association with financial stability and flexibility.

8. Services and products provided to non-members should result in recovery of costs.

The past two decades, and especially the last ten years, have been exciting for ARL. The growth of ARL's activities and the increased influence of the Association, both in the library community and the higher education and scholarly communities, are important and should continue. The adoption of sound financial strategies to accompany this more active role will allow ARL to proceed in an orderly manner, to make difficult priority decisions, and to retain the support of the membership.

January 1989

Approved by Membership
May 11, 1989

APPENDIX C

Future Directions for the ARL Statistics

I. Introduction
II. Counting the Holdings of ARL Libraries
III. Counting Government Documents
IV. Ownership vs. Access: New Measures of Library Effectiveness
V. Summary Recommendations

April 17, 1989

Committee on ARL Statistics

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*Don Tolliver was a member of the Committee on ARL Statistics until December 1988 and contributed to the preparation of this report.

Part I: **Introduction**

The Committee on ARL Statistics is charged to provide advice regarding the improvement and refinement of the statistical data collected by ARL, and to recommend to the ARL Board new statistical projects or changes in policy related to the collection, interpretation, or applications of statistical data. Over the past few years, the committee has helped initiate new procedures designed to make the data ARL collects more consistent and comparable, and has added several data elements to the annual *ARL Statistics*.

Several issues surrounding the statistics continue to be of concern to the committee and to many members of the Association. These include, in no particular order:

- Do the data now collected by ARL give an accurate picture of the holdings of ARL libraries?
- Is it feasible/useful to provide more details on ARL library collections and resources, e.g. counts of all types of material held, number of titles in collections rather than just number of physical volumes?
- Can we begin to reflect the intellectual content of ARL libraries?
- How can government document resources be reflected consistently across the ARL membership?
- Are the data too concerned with size of collections at the expense of other features or descriptors of member libraries?
- How can the funds spent to enrich access to information contained in ARL libraries be reflected beyond the traditional measures of added volumes, interlibrary loans, and expenditures?
- Are there "access measures" that will provide comparable data among institutions?
- Should ARL develop performance measures for its member libraries?
- How can we measure the shift in resources from developing local collections to providing better access, in the long run, to more resources in many locations?
- How should material held in remote and/or cooperative storage facilities be counted?
- Is it feasible/useful to disaggregate data for law and medical libraries as in the *ARL Annual Salary Survey*?

- Are we collecting the data needed to understand and plan for future research needs of scholars and the future of research libraries?

During 1988, the Committee on ARL Statistics considered some of these questions with the goal of bringing to the ARL membership recommendation on future directions of the ARL statistics program. The committee began by looking specifically at the extent to which the data now collected adequately describe ARL libraries, and what new categories of data might be added to give a more comprehensive picture of how ARL library resources are deployed. At the same time, the committee looked at several other ongoing concerns, e.g., treatment of government documents and development of "access" measures. The committee met on January 10, 1989 to prepare its report and to plan for discussions with the membership.

To help with the deliberations, three working papers were prepared for the committee. The papers, Parts II-IV of this report, are "Counting the Holdings of ARL Libraries," by Kendon Stubbs (Part II); "Counting Government Documents," by Carol Turner(Part III); and "Ownership vs. Access: New Measures of LIbrary Effectiveness," by Thomas Shaughnessy (Part IV). Part V includes recommendations compiled from the three papers and the committee's discussion at its January 10 meeting.

Part II: COUNTING THE HOLDINGS OF ARL LIBRARIES

by

Kendon Stubbs
University of Virginia Libraries

Background

In order to understand how ARL measures the collections of research libraries, we need to return to the beginning of this century. When James Gerould began compiling college and university libraries statistics in 1907-08, he included the two collection measures sufficient for those simpler times —"Books in Library" (i.e., volumes held) and "Added Last Year" (i.e., gross volumes added). As described in Molyneux's *The Gerould Statistics*, the annual Gerould compilation gave rise to the Princeton statistics in the 1940's, which in turn evolved in the 1960's into what is now the *ARL Statistics*.

The 1940's were the last period of sustained soul-searching by ARL about what its collection measures really meant. The majority of members in the 1940's (and continuing till today) take "volumes" to be physical volumes. Depending upon the subject area, a physical volume is no more than an inch or two of paper and cardboard. There was (and is) a great practical reason to be interested in a surrogate measure of inches of paper. It was in the 1940's that Rider announced that those inches of paper were doubling every 16 years, as though "some natural law were at work." The Rider doubling entered the mythology of research libraries, from which it has not been expunged even today. Knowing that the most exhausting undertaking of his career would be the struggle for a new building for that growing paper, the prudent library director needed to pay attention to the counts of volumes held and volumes added. And indeed, for all their defects, these measures have worked tolerably well as planning tools for space needs.

They were less successful as tools for explaining how ARL libraries support scholarly research. If you bind 12 pamphlets together and call them one volume and I bind them separately and call them 12 volumes, nevertheless we both have the same resource for research. Even in the 19th century, in the famous Bureau of Education report of 1876, there were complaints that volume counts were not comparable among institutions. By the 1940's librarians had discovered that Ohio State's 496,806 volumes represented 330,927 titles, while the 1,1718,867 volumes of the Chicago Public Library represented only 140,000 titles. The time was ripe for a new look at measures of holdings.

In 1945 ARL thus appointed a Committee on Statistics of Library Holdings, chaired by Robert Downs. Downs was an advocate of counting by bibliographical units. In 1945 the membership accepted the Downs committee's recommendation that ARL members count holdings by bibliographical units. At the time, and 40 years later even more, the concept of bibliographical units seems like a fuzzy kind of title count. According to the committee's report, 12 pamphlets bound together should be counted as 12 volumes, but 12 serial issues bound together are one volume. ARL debated this issue from 1945 to 1948, and then appointed a new committee chaired by Guy Lyle. In 1949 the Lyle committee recommended, and the membership approved, that holdings should be counted by physical volumes. This decision by the membership presumably still governs ARL's counts of holdings today.

ARL did not actively pursue two other recommendations by both the Downs and the Lyle committees; and part of the current dissatisfaction with the ARL statistics on holdings stems from this failure in the 1940's. Both committees recommended that statistics be reported for items cataloged *or* made fully available for use. Items such as government documents would have been reported by Downs and Lyle, even if they were not cataloged and classed in LC. At this same time, however, ALA was coming to a definition of a volume as an item both cataloged *and* made available. ARL followed ALA up to today's ANSI definition of a volume as "a physical unit ... cataloged, classified, and made ready for use." Thus arose today's problems with counting separate government documents collections. The Downs and Lyle committees also recommended that separate counts be reported for microforms, manuscripts, sound recordings, scores, maps, and prints. ARL never took steps, however, to encourage the Princeton statistics to incorporate these categories. In spite of the membership vote in 1949 to report the full range of resources available in ARL libraries, the annual statistics continued to display what Gerould had counted in 1907-08—now interpreted as physical volumes held and physical volumes cataloged and classified during the preceding year.

During the ARL debates of the 1940's other voices were heard in favor of measures that would elucidate the purpose of research libraries. Interestingly, the apostle of the doubling of paper, Fremont Rider, put it best: "From the scholar's standpoint it is the availability of his text that is important; what physical form it is in is secondary" (32nd Meeting, 1949). Or "Mr. Coney expressed the feeling that titles were more important than volumes" (21st Meeting, 1944). We should not leave these battles without noting that there were other voices in the 1940's of which we can hear echoes today: "Mr. Van Hoesen questioned the need for uniform statistics or the real value of comparing them" (21st Meeting, 1944). "Mr. Downs ... said that he had once thought uniformity possible but that he had now become disillusioned on this subject and believed that no action taken [by ARL] would have much effect" (33rd Meeting, 1949). "Mr. White wondered why statistics should be reported at all" (33rd Meeting, 1949).

Principles for Counting Holdings

It remains true today that *part* of the mission of academic research libraries is to acquire, organize, and preserve materials in breadth and depth to serve the present and future teaching and research needs of faculty and students. This is the supply-oriented function, or, as Michael Cooper called it, the archive function, of research libraries. The strategy by which libraries carry out this function is to collect on campus intellectual units of information in a variety of physical and machine-readable formats. If the mission were only to lock physical objects up in a warehouse, we could be content with measurements that indicate how many physical volumes or items or linear or cubic feet our collection comprises; and from these measurements, over time, we could estimate our needs for more warehouse space. But the purpose of these resources is to serve the teaching and research needs of faculty and students. This purpose suggests the need for a second kind of measurement—specification of the intellectual content of our warehouse. (The purpose also suggests a third kind of measurement—of the ways in which faculty and students actually use this intellectual content; and that kind of measurement is discussed in a separate paper on access measures.) As Rider implied, the real world of teaching and research will have only passing interest in the fact that institution A has X physical units in its warehouse. The real world will want indications of the extent and variety of intellectual resources (and of the ease with which this or that resource can be gotten at). At the national (or, with Canada, international) level of ARL, it is probably true that measurements of physical units are less useful—certainly less illuminating—than measurements of the national (or international) spread and variety of intellectual resources.

These reflections point to the need for two modes of measuring holdings. The first mode is the physical count. We should not be deluded into thinking that traditional physical counts are of no account. Physical volume measures have rendered valuable service and will continue to be needed, especially for local space planning. In 1986-87, in the typical ARL library, 82% of total expenditures went to the acquisition and binding of paper and to staff salaries. There is no evidence that the paperless research library is anywhere in sight. And so for the foreseeable future we will need surrogate measures of the physical units we are acquiring.

The problem with physical measurements is that ARL, following Princeton and Gerould, is counting only part of the physical resources in research libraries. The "cataloged, classified, and made ready for use" proviso of the definition of a volume has excluded even vast numbers of paper items such as documents. The membership's 1949 agreement to report other formats, such as manuscripts and audiovisual materials, has never been followed (except for a fairly meaningless count of microforms). Even within the mode of physical counts, the ARL statistics are defective in representing the resources in research libraries.

In regard to the mode of measuring the variety and extent of intellectual resources available among ARL members, we might nowadays find ourselves in agreement with Fritz Machlup. Back in 1976 he annoyed ARL librarians with a famous article entitled "Our Libraries—Can We Measure Their Holdings and Acquisitions." Machlup pointed out that ARL libraries couldn't tell him how many books and serials they owned to support sociology or French language and literature or physics or other areas; nor did they know how much they were spending in support of these areas of scholarly research. *A fortiori*, ARL had no idea how extensive or varied was the world's production of information in sociology or French or physics, and no idea of the breadth or depth in which information was available among the ARL membership. These queries were simplistic, librarians said. But a decade later, without pride or prejudice, we might agree that Machlup's questions still represent a worthwhile research agenda.

Are research libraries today in a better position to report on their variety of intellectual resources? At least in the 1986-87 *ARL Statistics* it is disheartening that one out of four ARL libraries could not say how many books (monographs) it purchased, and one out of three could not report the number of serials purchased. Whether they use them or not, however, ARL libraries in 1988 do have available a number of tools for elucidating the extent and variety of their intellectual resources. Among these tools are:

1. At the simplest level, title counts reported by U.S. libraries to IPEDS (formerly to HEGIS).

2. As more records are converted to machine-readable form for local outline catalogs,

the possibility of accurate title counts of holdings and acquisitions is expanding. One of the reasons why ARL rejected the bibliographic unit (title) concept 40 years ago was that many directors did not want to undertake a manual recounting of their collections. More and more, online catalogs will be able to provide statistics on both volumes and titles in the ordinary course of work.

3. The National Shelflist Count, carried out in Berkeley during the 1970's and early 1980's and now supported by ALA's Resources and Technical Services Division. The National Shelflist Count makes a big step in the direction of answering the kinds of questions posed by Machlup. The compilers are sensitive, however, that it is a more refined measurement of subject *size*, not necessarily of quality.

4. NCIP. Participants in NCIP were aware from the beginning that outsiders might consider the results subjective or non-comparable among institutions. Considerable effort has been devoted to making the process as objective as possible, for example, through verification studies. As a result, NCIP is the best tool yet devised by the research library community to elucidate the breadth and depth of intellectual resources among ARL libraries. The failure of the Dartmouth public service test of NCIP, reported in a recent *NCIP News*, is an indication that NCIP has not yet gained acceptance as the pre-eminent description of ARL holdings. One can hope that the day will come when *The Chronicle of Higher Education* will find NCIP results as congenial and compelling as they now find rankings of physical volumes held and physical volumes added.

5. Although they imperfectly represent the full holdings of ARL libraries, the OCLC, RLG, UTLAS, and WLN databases would offer valuable opportunities for research on the spread and overlap of resources among ARL members, and between ARL members and other libraries represented in the databases.

Recommendations for Counting Holdings

A. Annual Statistics

1. ARL should continue to report counts of physical volumes held and added. To these traditional measures, however, should be added counts of the *physical units* of other materials in ARL libraries. A useable list of these other materials appears in the ANSI standard and in the IPEDS survey. They include government documents (dealt with in a separate paper); microforms; manuscripts; cartographic, graphic, audio, film, and video materials; "machine-readable materials" (now including CD-ROM); and other materials. The ANSI list is a bit dated, but is currently being revised by a committee chaired by Mary Jo Lynch and Peter Young. ARL should move to adopt the ANSI list for annual reporting by members.

2. ARL should also adopt the ANSI/IPEDS categories for *title* counts of physical volumes; microforms; audio, film, and video materials; and machine-readable materials."

3. With title counts ARL should begin reporting the number of titles represented in the local online catalog. (Note that this may also be considered an access measure.)

B. Irregular Statistics

The Committee on ARL Statistics, together with the Committee on Management, should pursue the following two topics.

1. What are the asked but unanswered questions about ARL library holdings? Are they variants of the Machlup questions? Certainly there are pointers towards unanswered questions in the literature—for example, in the papers for the CLR Economic Seminars and in Martin Cummings' summary of the Seminars.

2. Which of these questions are likely to be answerable through tools such as the National Shelflist Count, NCIP, and the bibliographic utility databases? After these questions are formulated, ARL should encourage researchers among the 8,500 professionals in ARL libraries, as well as among library school faculty and students, to seek answers. ARL's encouragement should include strong support for grant proposals from researchers to agencies such as the federal government, CLR, andprivate foundations.

Some of this research—for example, in bibliographic databases—may help characterize the holdings of all, or nearly all, ARL members. Other research might be based on samples of members represented in the shelflist counts or in NCIP. It is to be hoped that the research would point to new ways of counting and describing research library holdings. These new ways, in turn, might lead to recurring compilations of data on holdings: even, further into the future than we can now see, to annual reports on the state of intellectual resources in research libraries.

Part III: COUNTING GOVERNMENT DOCUMENTS

by

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How should ARL libraries count their government documents? This is a question that arises whenever ARL collection statistics are discussed. And, statistics and counting methodologies are topics that document librarians have continued to view as problems with no easy or universally acceptable solutions. There is agreement in principle that documents should be counted. In 1982, the American Library Association's Government Documents Round Table adopted "Statistics Guidelines for Government Documents Librarians," which recommends reporting as collection resources all documents that are processed for use and added to a library's permanent collection. The Guidelines further suggest that, in accordance with ANSI (now NISO) standard Z39.7 on library statistics, documents be reported in both physical and intellectual units.[1] Documents librarians generally support the principle of counting, in order to anticipate requests for data from federal, state, or local agencies or from library administration, and to secure information needed to manage resources soundly, evaluate the efficiency and effectiveness of operations, and project future needs. However, this support is not reflected in consistent practice. Neither the standard nor the GODORT guidelines have been widely adopted by libraries. In fact, there is so much inconsistency in how data are gathered and reported on government documents that comprehension and comparisons are difficult.

Government documents–i.e., publications prepared, published, or funded by local, state, national, or international government agencies anywhere in the world–have traditionally been problematic for libraries. Although they are elusive, often printed in small runs, and distributed through obscure channels, collectively they constitute a nearly infinite bibliographic universe of primary source material. An essential element in research library collections, they are difficult to acquire, to catalog, to house, to preserve, and to access. Consequently, each library has devised its own methods for handling them. It is neither surprising that these methods differ from those used for other materials in individual libraries nor unexpected that there is a great deal of inconsistency among libraries in the handling of government documents.

A few libraries handle government documents in the same manner as other materials. That is, they catalog them fully and house them in the main collection. In other libraries this approach is taken for some subset of documents, e.g., scholarly monographs and serials acquired to support specific academic programs. Publications of foreign documents are often handled in this way, selected and acquired by an area or subject bibliographer rather than by a documents librarian. It is generally not the approach taken for large numbers of documents acquired through depository programs, such as those of the United Nations and the U.S. federal government. Depository libraries receive thousands of publications annually through these programs, and have generally been unable to handle them like other materials. In fact, the overwhelming majority of ARL libraries do not provide the same level of bibliographic control for their U.S. federal publications as for other materials. The general practice is to house most of these materials in a central collection, providing access through a shelflist and printed indexes and to catalog only a few of them because of their subject format or shelving location, or because the librarian anticipates high use and/or long-term or permanent research value. Because of the volume of documents, the selection of certain titles for full cataloging often becomes, to some extent, a function of available staff. Given the very substantial increase in the number of publications distributed through the U.S. federal depository library program, especially since the introduction of microfiche format, many libraries that formerly cataloged most or all of their U.S. federal documents now catalog nothing that is in fiche format, or they have curtailed or ceased cataloging U.S. documents regardless of format.[2] Because of expedient decisions, inconsistencies in treatment of government publications have increased. Materials currently received in volume from the U.S. federal government, the United Nations, or the home state may be represented only in a departmental shelflist, while similar materials issued by jurisdictions collected less comprehensively or issued twenty years ago rather than today may be fully cataloged and included in the library's union catalog. Given such variations in treatment, it is not surprising that counting and accounting for these publications have also been very difficult.

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[1] *Documents to the People*, vol. 9, no. 6, November 1982, p. 279-282, 284.

In recent years there have been substantial efforts to "mainstream" government publications. Sharing records through bibliographic utilities has made it possible and economically feasible to catalog more government publications. The availability of the GPO *Monthly Catalog* tapes has provided full AACR cataloging for U.S. federal government publications since 1976. Document libraries have made concerted efforts to bring documents "out of the basement," to better publicize their value to researchers, and to increase access by integrating document records into their library's union catalog. While progress has been slow, these efforts are finally beginning to bear fruit as many research libraries are currently involved in plans to include more records for government publications in their main catalogs. This improvement in access raises additional questions about how ARL should count government publications.

There are at least three ways that government document resources can be counted:

1. a physical count of volumes (or pieces or linear feet occupied)
2. a bibliographic count of titles that reflects the intellectual resources held by a libraries
3. a count of cataloged entities that reflects cataloging productivity, record quality, and perhaps contributions to national databases.

What ARL has been doing is combining a physical count with a productivity count. Because ARL asks libraries to report cataloged volumes, government publications are included in ARL's resource count only if they are fully cataloged and integrated into the main collection.

Since the overwhelming majority of ARL members have been depository libraries for publications of U.S. federal government for many years, documents constitute a significant portion of their collections (millions of pieces or several hundred thousand volumes). But because of the instructions for reporting volume counts to ARL, two institutions that are depositories for U.S. federal documents selecting the same number of documents but organizing them differently (one fully cataloging and the other using SuDoc classification and a shelflist) will have very different ARL resource statistics even if their volume and title counts are the same. The current method really compares, insofar as government publications are concerned, only the number of volumes cataloged, and not the size of collections or the number of titles in them.

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[2] Turner, Carol, and Latta, Ann. *Current Approaches to Improving Access to Government Documents: An OMS Occasional Paper Produced as Part of the Collaborative Research Writing Program.* Washington, D.C., Association of Research Libraries, 1987.

If an ARL library had historically counted uncataloged documents and then decided to come into conformance with the instructions, it might suddenly "lose" 20% of its collection. Obviously this would create confusion for peer institutions charting comparisons, and it could have substantial political consequences for individual libraries. Furthermore, the annual *ARL Statistics* clearly indicate that individual libraries have problems following the instructions and rationalizing their approach to government documents. In the 1986-87 *ARL Statistics*, more than one-third of the ARL members provided a footnote to clarify how documents are counted and reported. And, the definition that now exists is going to become increasingly problematic as more and more document records enter the mainstream. For example, the University of Florida has a centralized collection of U.S. documents that has not been included in the *ARL Statistics* because it has never been cataloged. Staff are currently working on specifications for loading the GPO *Monthly Catalog* tapes, which provide records for U.S. federal documents distributed since 1976. These are full AACR standard cataloging records that will increase the local database by something like a quarter of a million records. Should these materials now be reported to ARL as cataloged volumes? If one is counting physical resources with bibliographic access comparable to other materials in the collection, they should be counted. If one is counting local cataloging productivity they should not. If they are added to the ARL volume count, does it then make sense to continue to exclude publications issued earlier that constitute a permanent part of the research collection but that are not represented by machine-readable standard cataloging? A further problem here is the quandary of the bibliographic vs. physical count. Since many federal documents are small, pamphlet-type publications issued in series (e.g., Congressional reports and documents, USDA Bulletins) that are counted as pieces in many libraries (and are bound together if bound at all), a bibliographic unit does not necessarily equate with a physical volume. Therefore the question arises as to whether documents should be reported as pieces rather than as volumes. Here again, if one library reports each piece as a volume and another reports only bound or "substantial" volumes or uses an equivalency formula (e.g., one linear foot of documents is equivalent to eleven volumes of book material), there are great variations in reporting very similar collections.

ARL also specifies that documents be excluded from the reports of current serials and microform holdings. It is apparent that these two areas create difficulties for reporting libraries, since so many include footnotes to explain the statistics they have reported. ARL excludes uncataloged, separately housed documents from the count of currently received serials and excludes all documents from the microforms count. While it appears that ARL is attempting to be consistent insofar as the treatment of documents in all formats is concerned, this approach creates other inconsistencies. Neither the current serials nor the microforms counts require that materials be cataloged in order to be counted. Consequently, excluding all documents without excluding other materials that are not cataloged seems to be prejudicial against documents. It also invites inconsistent reporting since what is reported is probably dependent not on what a library holds but on where this material is housed.

A final issue related to counting documents is whether there should be consistency between ARL's reports and what libraries must report elsewhere. The other major report of research library resources is prepared by the U.S. Department of Education from data submitted on its Integrated Postsecondary Education Data Systems (IPEDS) survey. This survey requests separate reporting of government publications that are not integrated into general collections. It asks for the number of government document *titles*, books and serials, that are not included in the general collection count. The current serial count includes documents if they are "cataloged and shelved with the regular collections." Microform government *titles* not included in the general counts for book titles and serial titles in microform are separately reported. All other formats (cartographic, audio, machine-readable, etc.) are reported in titles counts with no specific separation of government publications. So here, too, some questions arise about internal consistency. ARL/IPEDS comparisons do raise a host of issues about bibliographic count versus physical count, about how to deal with formats beyond print and microform, and about the feasibility of implementing standards for reporting library statistics. These issues obviously transcend the narrow area of counting government documents. However, the treatment of government documents should be considered when these broader concerns are addressed.

There are many specific questions relating to how ARL should deal with the ungainliness of documents. Should ARL libraries report all documents in their resource count? Should there be a distinction between documents that are cataloged and integrated into the general collection of printed materials and those that are housed separately and given less complete bibliographic control? If separately-housed collections are reported, should they be reported in volumes, pieces, or linear feet? Should the level of bibliographic control be a factor in how documents are counted? How should documents be handled in the count of current serials, of microforms, of other categories that might be added to ARL's survey?

Recommendations

1. The overriding recommendation is that government documents be mainstreamed and not treated differently from other materials unless there is a specific reason to do so. Provenance is not a rationale that is used elsewhere in distinguishing among library materials, so there is no strong case for separating documents. Even if it were desirable to separate materials deposited from materials owned, most libraries would find it difficult to establish base counts in their cataloged general collections.

2. All government documents that are a permanent part of the research collection should be counted and reported in the ARL resource count.

3. Documents that are cataloged and integrated into the general collection should be included in that count and not otherwise distinguished.

4. Libraries should begin reporting in their resource count separately housed and previously unreported government documents that constitute a permanent part of their collections.

5. The document count should include uncataloged materials and material with bibliographic access provided by a batch cataloging process, such as loading the GPO tapes.

6. Local procedures should be developed to insure that there is no multiple counting of document resources. For example, paper copies that will be replaced by hard copies should not be counted; revisions or replacements should not be added unless what they revise or replace is subtracted.

7. A volume count is probably not the best kind of resource count for government documents. Most documents departments count pieces as they are processed. A straight linear feet count might be an even better measure to provide comparable statistics that would counteract individual differences in binding practice, volume records, etc. Both of these counts would provide useful operational data for libraries, the former for monitoring and analyzing workload and the latter for space planning. It would be useful to look at both piece counts and linear feet counts in order to determine which is more feasible and more useful for members to report. Having both reports would first make it possible to test assumptions that in large document collections five pieces are roughly equivalent to a volume and 52 pieces to a linear foot, and to make overall resource comparisons between libraries by adding documents to the general collection figures.

8. Currently received document serials should be include in the current serial count.

9. Document microforms should be included in the microform count.

10. Documents should be included in any additional format counts that might be added to the *ARL Statistics*.

Part IV: OWNERSHIP VS. ACCESS: NEW MEASURES OF LIBRARY EFFECTIVENESS

by

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According to the 1986-87 edition of the Association of Research Libraries' *ARL Statistics*, median expenditures for serials increased 18.2% over the previous year, while the number of titles received grew by only 2%. And in just one year, serials expenditures increased from 52% of the median acquisitions budget of research libraries to 56%. These data merely corroborate trends that have been reported by authors such as Ann Okerson and studies which have been done by Charles Hamaker, Deana Astle and others. All seem to reach the same conclusion, namely, that the costs of library materials (especially serials) are increasing at a rate far above the financial capabilities of libraries and their parent organizations.

The widening gap between the ability of libraries to develop research collections in the face of current fiscal realities is creating a crisis of major proportion for most libraries, but particularly those whose mission is to support research. While this crisis holds many ramifications for libraries and their parent institutions, one of the more interesting is that it is beginning to require a redefinition of the role of libraries in society and a new approach to their measurement and evaluation.

The concept of a library as a warehouse of information, if it ever was entirely valid, is certainly losing validity today. Partly this change in perspective is due to changes in the system of scholarly communication, the advent of new information technologies, and the simple fact that even our largest research libraries have been, and are becoming even more, interdependent. What is being called into question, therefore, is the extent to which libraries should be expected to own most of the resources needed to support local instructional, research or other programs.

Developments in computing and telecommunications technologies have led many researchers to conclude that physical proximity to data files is far less important than having efficient access to those files. It is interesting to note, for example, that the needs of most scientists for the power provided by supercomputers can be satisfied by just four or five supercomputers strategically placed across the United States. Campus officials have begun to speculate as to why a similar model cannot be applied to research libraries, particularly in an age of linked systems, so-called wired scholars, 3-M and higher level workstations, and interconnectivity. They are asking, in effect, why must expensive research collections be duplicated on campus after campus, and sometimes even among branch libraries on the same campus. Costs associated with the storage of library materials are also bringing about new approaches to addressing this issue. Some libraries within a state or region have established cooperative storage centers for less used, but valuable material. On-line, public access catalogs provide bibliographic access to the stored collections and all participants have equal access to all of the stored material. As a result of such developments, the question as to which library owns a given portion of the collection becomes far less important than the entire collection's being accessible to all contributors.

A similar model may be applied to library collections located within an area or region. To the extent that the participating institutions share a common database of holdings, which are equally accessible to all members of these institutions, why should not each participating library claim all of the titles contained in the common database as its own? In addition to the fact that this would result in the same titles being counted repeatedly by each library, the question does illustrate the ownership versus access dilemma. But there is also the question as to the extent to which such a model really works. In theory it would seem to, but the ultimate test of its validity would be the reciprocity and intensity of use of the consortium's collections.

In view of these and other environmental factors, a new library paradigm needs to be developed, one which combines the *best* features of both the supply-oriented or warehouse model and the access-oriented or demand-driven model.[3]

The supply-oriented research library operates on the philosophy that the user is best served by assembling large collections of materials across a broad range of disciplines. Although one is not certain that all of the materials selected will prove to be useful, library users should have the opportunity to select relevant documents from collections which are not only broadly based (one of several criteria for membership in the Association of Research Libraries) but which have sufficient scholarly depth as well. According to this calculus, future use may be just as important as actual use, and given the sometimes serendipitous nature of research, one never really knows with certainty when a previously unconsulted title might become an important and heavily used resource. Several studies have demonstrated, however, that past use is the best (though not completely accurate) predictor of the future usefulness of a given title.

It has been argued that in many of our largest research libraries, quality and quantity go hand in hand. While it is true that the larger the collection, the more often a researcher is likely to find what he or she is seeking, it is possible that user success correlates more strongly with the care which went into building the collection in question, or with high-quality bibliographic description and control, rather than with collection size. There are countless examples where "bigger" is not necessarily "better." From a user perspective, finding documents or information relevant to one's research topic is far more important than the recall of large numbers of documents having little or no relevance.

In contrast, the demand-driven library emphasizes access over ownership; customized, value-added service over self-service; and information retrieval over document or citation retrieval. It recognizes that it can no longer afford to meet the standards of the previous model, or decides to adopt a new approach to meeting the informational needs of its constituents. According to this philosophy, the library tries to acquire materials which it has reason to believe are needed fairly immediately by specific clientele groups. In fact, it seeks to involve more directly its constituents in the selection process. Large collections of materials that may be potentially useful are seen in some cases as getting in the way of users seeking documents known to be relevant. The ideal of the "well-rounded collection" has no place here. Emphasis is placed upon the duplication of those titles which are in demand, rather than on the purchase of titles unique to the collection. But before such a model can be tested, appropriate measures of performance must be developed.

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[3] Miriam A. Drake. "From Print to Non-Print Materials: Library Information Delivery Systems," *EDUCOM Bulletin* 23 (Spring 1988), 28-30.

Measures that might be indicative of the former ("internal" access) are:

- percentage of holdings records in machine-readable form;

- percentage of records listed in bibliographic utilities;

- availability of an online catalog permitting access from remote locations;
- number of terminals available on-site per user;

- limitations, if any, on search strategies or access;

- collection accessibility (based on measures developed by Paul Kantor);

- document exposures (volumes consulted on-site *and* borrowed);

- reference/informational questions answered;

- instructional classes offered and number of attendees;

- average hours open per week;

- percentage of hours staffed with professionals;

- availability and use of document delivery services;

- number of patrons served;

- availability of local databases;

- expenditures for preservation; number of items preserved

Among the measures indicative of the latter category ("external" access), that is, resources and information available elsewhere, are:

- the ratio of interlibrary lending to borrowing;

- interlibrary loan service fees, if any;

- average ILL turn-around time; number of items borrowed;

- availability of public access OCLC and/or RLIN terminals; numbers of users; free or fee;

- database searching service: free or fee;

- end-user searching facilities;

- membership to enhance access: CRL, RLG, OCLC, local consortia, etc.;

- access to jointly stored collections: number of volumes in storage; availability of online, bibliographic access and document delivery;

- availability and use of document delivery service.

The above listing, which is by no means complete, includes both raw data categories and computed measures (such as the ratio of borrowing to lending). The latter could be expanded upon considerably.

In view of the range of measures available, it is proposed that from among these a group of *core* measures be identified and collected by ARL. But before core access measures are added to the *ARL Statistics*, the following questions should be considered:

1. Should we propose only those data elements that ARL libraries can easily collect in the normal course of work? From the 1985-86 *Supplementary Statistics* it is clear that the only access data that ARL members easily supply are circulation figures and reference/directional question figures. The ARL statistics questionnaire does impose a collecting and reporting burden on members. How much should we reasonably add to the burden?

2. To what degree, if at all, should measures requiring sampling be part of the core? The Kantor output measures, for example, are all sampling measures. It is one thing to request that a count be kept year-round, such as circulations. It is quite a different thing to require all ARL members to fund sampling projects every year.

3. Should the core access measures consist only of raw data, or should computed measures (such as ratios) also be included?

Care will need to be taken so as not to overemphasize access measures. Access is not a substitute for ownership, but complements a library's investment in the acquisition of resources. It is not the intention of the ARL Committee on Statistics to downplay the importance and continued relevance of ownership statistics. Rather, our intention is to identify other complementary measures that bear directly on the role of research libraries in the process of scholarly communication.

Finally, it should be emphasized that the successful development and implementation of a core group of access measures will not provide a complete answer to the question of what characteristics or criteria ultimately define research libraries. In fact, the two access measures presently available–circulations and interlibrary loan transactions–fail to discriminate between research and other libraries. Many small academic libraries, for example, are high net lenders. However, the combination of selected access and resources-based measures may provide a clearer definition in that they will indicate more fully the extent to which an individual library participates in systems of information retrieval and scholarly communication. Nevertheless, it is very probable that they will not adequately capture that quality of "researchness" that distinguishes true research libraries from those with other missions. It is this quintessential characteristic that we continue to seek.

Part V: **Summary Recommendations**

At its meeting on January 10, 1989, the Committee on ARL Statistics agreed that a number of recommendations for counting the resources of ARL member libraries should be presented to the membership in May 1989. At the same time, the group concurred that they were not prepared to recommend specific access measures to the membership, though they concurred that the topic of access measures should be discussed more fully with the membership as soon as possible. The committee also recognized the need to continue investigating certain fundamental questions. Accordingly, the committee makes the following recommendations:

ARL Statistics

The Committee on ARL Statistics reaffirms current practices but recommends several changes be made to ARL's annual collection of data. These changes should be adopted on a trial basis for 1988-89 (if possible) and 1989-90, and incorporated into the annual *Statistics* for the data year 1990-91.

1. ARL should continue to report counts of physical volumes held and added. *(current practice)*

2. All government documents that are a permanent part of the research collection should be counted and reported in the ARL *Statistics*.

    a. Documents that are cataloged and integrated into the general collection should be included in the regular volume count. *(current practice)*

    b. Currently received document serials should be included in the current serials count. *(change)*

    c. Document microforms should be included in the microform count. *(change)*

    d. Documents that are separately housed and *previously unreported* government documents that constitute a permanent part of the research collection should be counted, with sufficient local care to insure that there is no multiple counting of document resources. This count should include uncataloged materials and material with bibliographic access provided by a batch cataloging process, such as loading the GPO tapes. At the outset, the count for these materials should be reported to ARL in *both* linear feet and number of pieces received. *(change)*

3. To these traditional measures ARL should add counts of the *physical units* of other materials in ARL libraries. In addition to government documents, these materials include: microforms; manuscripts; cartographic, graphic, audio, film, and video materials; "machine-readable materials" (now including CD-ROM); and other materials. *(change)*

ASSOCIATION OF RESEARCH LIBRARIES

APPENDIX D

REPORT ON ASSOCIATION ACTIVITIES

September 1988 - April 1989

Summary

The Association completed 1988 with a small budget surplus. The audited financial report shows $1.47 million expenditures and a $1,100 surplus for the Executive Office and the Office of Management Services. The Association's financial system and staff were reorganized and, beginning in January 1989, the Association moved to an accrual accounting procedure. The membership approved dues for 1989 to assure fiscal stability, and provide an expanded communications role for the Association in higher education matters.

Highlights of ARL program activities since the September membership meeting include:

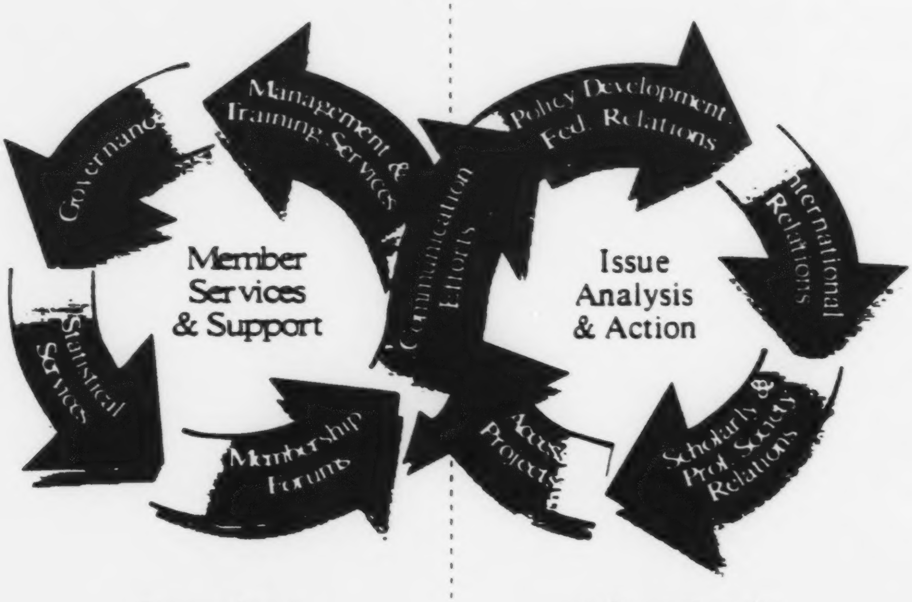
- 1987-88 ARL Statistics and ARL Annual Salary Survey issued early as the result of an accelerated production schedule, p. 1
- ARL Committee on Statistics issued report of access measures for research libraries, p. 1
- ARL Committee on Preservation commenced analysis of preservation statistics collected in fall 1988, p. 1
- A briefing package on alkaline paper was developed and widely distributed to encourage publisher and congressional attention to the issue, p. 2
- Successful York Membership meeting attended by 75 institution representatives, p.2
- University of Illinois, Chicago accepts membership invitation becoming the 119th member of ARL, p. 2
- ARL Task Force on Review of the Five year Plan proposed new mission statement for the Association, p. 3
- ARL Financial Strategies Task Force proposed financial principles to guide future fiscal planning. p. 3

- Serial prices project report issued calling for an aggressive ARL response, p. 5
- Office of Management Services introduced a new Creativity Skills Institute, p. 8
- ARL led the opposition to OMB information policies resulting in a significant record of public criticism, and an announcement by OMB to review the policies, p. 9

There were two significant personnel developments at ARL during this period. In January 1989, Prue Adler came to the Executive Office as Communication Officer. She was formerly with the Office of Technology Assessment and was part of the team writing the landmark report, "Informing the Nation." In February, Maxine Sitts, long-time leader of the ARL/OMS Systems and Procedures Exchange Center, left to help the Commission on Preservation and Access build a publications program. We wish her well in her new endeavor.

The challenges facing the Association in 1989 are: building financial stability; extending opportunities for member involvement in addressing issues, strengthening Association influence and role in larger environment of higher education and scholarly communication, and maintaining the array of services provided to members. Major issues on the agenda for ARL include follow-up to the serials pricing project, monitoring the development of a national research and education network, influencing government information policies, and promoting publishers' use of permanent paper.

ASSOCIATION OF RESEARCH LIBRARIES
Capabilities


Management & Training Services
Governance
Statistical Services
Membership Forums
Member Services & Support
Communication Efforts
Policy Development Fed. Relations
International Relations
Scholarly & Prof. Society Relations
Access Projects
Issue Analysis & Action

Strengthening Research Library Performance

Influencing the Scholarly Information Environment

I. STATISTICS PROGRAM

ARL *Statistics*. The 1987-88 ARL *Statistics* had a target publication date of January 15, 1989. In an effort to meet this date, procedures were streamlined, definitions clarified, and the production schedule was well publicized, including when ARL staff would be contacting members with data verification questions. The last questionnaire was received on December 15, the publication went to the printer on January 13, and was distributed to the membership on January 31. ARL staff made about 300 calls during the processing and verification period.

For the first time in 1988, preliminary tables of data from the ARL Statistics were distributed to the ARL membership. The tables were rank order tables covering volumes held, volumes added, current serial titles, total operating expenditures, and total staff. The tables were distributed on December 1, 1988.

Salary Survey. A publication date for December 15 was established for the 1988 ARL Annual Salary Survey. For the 1988 Survey, ARL university library members were given the option of submitting their main library data on a floppy diskette using a program written in Lotus 1-2-3. The last return was received on October 20, but some unforeseen problems with the new method of handling data caused the analysis process to be slower than originally anticipated. Though only 50 libraries submitted their data on a floppy diskette, many more libraries are interested in this method if some accommodations can be made (e.g., different software options): these will be investigated for 1989. The preliminary Salary Survey tables were issued on November 17, and the 1988 Survey--which includes a number of new tables--was published and sent to the membership on January 11, 1989.

In February 1989, a brief survey was sent to Salary Survey contacts regarding submission of salary survey data in machine-readable form. The survey was designed to identify problems institutions had in completing the 1988 Survey and to identify a limited number of software options that would allow for as many university libraries as possible to submit their data on diskettes. Results of the survey will be compiled and sent to the membership in April.

G & E *Figures*. A preliminary report on Library Expenditures as a Percent of University Expenditures was distributed in April.

ARL *Index*. The ARL membership criteria index was sent to the membership in February. Two institutions requested that their index scores not be included in the listing distributed to the public.

Preservation Statistics. The ARL Committee on Preservation has begun an analysis of the preservation statistics collected in the fall 1988. The publication will be issued in June.

The Committee on ARL Statistics completed a report on "Future Directions for the ARL Statistics," which will be distributed to the membership for discussion at the May 1989 Meeting. The report covers, in particular, several issues relating to holding counts, government documents, resources in ARL libraries, and access measures.

II. COMMUNICATION PROGRAM

Newsletter. Issues No. 142-145 of the ARL Newsletter were published in October, December, March, and April. Work has begun on developing a new format for the Newsletter.

Minutes of the Meeting. The Minutes of the October 1987 Membership Meeting were published late in 1988. In addition, the program papers from that meeting were published as a separate volume, *Meeting the Preservation Challenge.* The Minutes of the May 1988 Meeting will be distributed in April. Work is progressing on the Minutes from the Sept. 1988 ARL/SCONUL meeting in York, England, and that publication will be available during the spring of 1989.

ARL Briefing Package No. 3, *Preserving Knowledge: The Case for Alkaline Paper* was prepared to encourage publisher use of alkaline paper. ARL developed the package and collaborated with the Commission on Preservation and Access and the National Humanities Alliance to distribute it widely throughout the library and scholarly community, publishing industry, and government policy makers. The package has proved to be particularly successful in promoting permanent paper legislation in Congress.

III. ARL MEMBERSHIP MEETINGS

September 1988: Seventy-five ARL directors and guests attended the joint conference held in conjunction with the Standing Conference on National and University Libraries in York, England. The program looked at various facets of collection development; papers from the meeting will be published in 1989. Those who attended the meeting found it stimulating and useful to meet and confer with colleagues addressing similar challenges and obligations but in very different local environments.

Of the directors completing evaluation forms, the large majority were in the seven to ten range for each question. The few ratings below five appeared on different evaluations; no one respondent rated all items below five. Overall, the meeting was viewed as extremely successful.

May 1989: Plans were developed for the May 1989 Membership Meeting around the programmatic theme of Technology and the Future of Scholarly Exchange. Brown University in Providence, Rhode Island is host for the meeting.

IV. GOVERNANCE OF THE ASSOCIATION

Membership Committees. The 1988 ad hoc Membership Committee presented a report and recommendation to the ARL membership for discussion at the September 1988 Membership Meeting in York. A summary of the discussion was prepared and sent to the membership, along with a mail ballot. The membership approved the committees recommendations, and the University of Illinois at Chicago was invited to join the Association. The committee has prepared a follow-up report on procedures that will go to the Board in May.

The ad hoc Membership Committee on Non-university Libraries was appointed in February to review procedures for evaluating potential non-university library members of ARL. The committee will present a preliminary report to the Board in May.

The ARL Planning Process was advanced. A Task Force on Review of the ARL Plan including James Govan, Marilyn Sharrow, Elaine Sloan, Duane Webster (ex-officio), and Kaye Gapen, Chair, held preliminary discussions with the ARL Board. The Board endorsed the Task Force's proposal for a new mission statement for the Association. The Board also endorsed a recommendation for the convening of membership in strategy forums to identify the critical issues facing research libraries in the near future.

The Task Force on Financial Strategies, established by the Board in May, completed its work in the fall. Members include David Bishop, Chair, Carlton Rochell, Peter Freeman, Elaine Sloan, Charles Miller, and Duane Webster (ex officio). The chair reported recommendations to the Board at its meeting in February and made recommendations for establishing a set of operating principles to guide long term financial planning. These principles will be presented to membership at the May meeting.

In addition to these two task forces, there are six standing committees and fourteen liaisons supported by ARL staff. Status reports on committee activities follow:

Committee on Government Policies:
Chair, Merrily Taylor; Staff, Jaia Barrett
1989 Agenda of issues: legal issues strategy, line of business restrictions on telephone companies, policy on free expression of ideas, and a ten-year review of the HEA II-C program.

Committee on the Management of Research Library Resources:
Chair, Sul Lee; Staff, Jeffrey Gardner, and Susan Jurow
1989 Agenda of issues: design of a strategy for future office services, review of training needs of research libraries, and consideration of library education initiatives.

Committee on ARL Statistics:
Chair, Tom Shaughnessy; Staff, Nicola Daval
1989 Agenda issues: collecting and displaying comparable data on government documents collections, guidelines for dealing with material in shared storage facilities, and developing access measures.

ARL Committee on Bibliographic Control:
Chair, Dorothy Gregor; staff, Jutta Reed-Scott
1989 Agenda of issues: supporting and monitoring the efforts of the Library of Congress to address issues in the area of bibliographic control; completion of guidelines for bibliographic records for preservation microfilm masters (monographs); consideration of guidelines for cataloging preservation microfilm serial masters; and monitoring the National Coordinated Cataloging Project.

ARL Committee on Collection Development:
Chair, Susan Nutter; Staff, Jeffrey Gardner
1989 Agenda of issues; follow up on serials prices project, operation of the NCIP, ARL role in the issue of foreign acquisitions, and strategy for examination of the larger question of the future of scholarly communication.

ARL Committee on Preservation of Research Library Materials:
Chair, Carole Moore; staff, Jutta Reed-Scott
1989 Agenda of issues: promoting publisher use of permanent paper; supporting and advancing the development of a North American strategy for preservation; analysis of 1987-88 preservation statistics; review of minimum guidelines for preservation in ARL libraries; and continuation of retrospective conversion of reports in the National Register of Microform Master (NRMM).

An invitation to ARL members to nominate staff to participate in a visiting program officer project prompted several inquiries. In October, the ARL Executive Office began work with Diane Smith from Pennsylvania State University on two projects: identifying innovative library programs for delivery of government information in electronic format, and developing an outline for an information policy/federal relations workshop for academic librarians. Rhonda MacInnes, of the National Library of Canada began as an intern/trainer in OMS in November. Karen Turko from University of Toronto is preparing an analytical, state-of-the-art report on mass deacidification processes. Samuel A. Streit of Brown University has begun a review of the past ten years of the HEA II-C program. Sandra Peterson, Yale University, will assist with ARL's recommendations for change in OMB information policies and the Paperwork Reduction Act.

V. MANAGEMENT SERVICES (OFFICE OF MANAGEMENT SERVICES (OMS))

A. **Research and Development Program** (Activities aimed at developing funding proposals and new OMS services or supporting study of special issues)

NEH *Project*. The National Endowment for Humanities awarded a grant of $146,000 to the Office in September 1988 for a Preservation Administrator Training Program. The grant supports the participation of ten ARL member libraries in the Office's Preservation Planning Program (PPP), the training of preservation specialists to serve as consultants on the PPP, and a formal evaluation of the PPP by Margaret Child. The initial nine libraries selected to participate in the PPP are: University of Arizona, University of Colorado, Boston Public Library, Duke University, University of Georgia, University of Kentucky, Oklahoma State University, Purdue University, and Syracuse University. One library remains to be selected by the Project Advisory Committee this spring. All ten participants will complete their projects between fall 1989 and fall 1991. OMS staff designed and carried out a six-day consulting skills workshop for sixteen preservation specialists in March and the initial assignments of the consultants to PPP participants has been made. The workshop emphasized the analytical and interpersonal skills required to work with the library study teams and task forces in working through comprehensive self-studies. The workshop also included coverage of issues related to serving as a preservation consultant within the participants' home institutions.

Resource Management Institute. This Institute has been designed and will be offered for the first time in December 1989. The program will follow the budget cycle of a library to explore the process of monitoring, analyzing, and managing financial resources. Forecasting, presentation techniques and budget development will also be covered. Publicity for the new Institute including location information will appear in early July.

Study of Professional Staff Turnover in Research Libraries. This study was conducted in the response to the ARL Management Committee's desire to improve the understanding of the demographic characteristics of research library staff. Of 106 libraries receiving the survey, 98 responded. A preliminary report was mailed to all directors, and a final report will be published in mid-1989 as an OMS Occasional Paper. This paper will address turnover rates as they relate to size of staff, geographic regions, and population density, and will help libraries assess employee retention conditions and project staff recruitment and replacement requirements.

Inhouse Training Program. OMS staff have been working with the National Library of Canada in the development of an ongoing, inhouse training capability. The Project has built on OMS experience with its Consultant Training Program and includes several components. These include: an assessment process for selecting library staff with skills and competencies required to be effective trainers; a one-week training the trainers workshop for selected staff; a training practicum experience for the selected staff, and a series of basic management and supervisory skills workshops for all supervisors in the National Library, as well as a series of one-day orientation workshops for non-supervisory staff. The program was conducted in a bilingual environment, in both English and French. Office staff plan to develop a generalizable program for development of training capabilities, based on their experience at the National Library of Canada. The National Library and the OMS have developed a one-year internship in which a Library staff member, Rhonda MacInnes, will work with OMS as a trainer, providing the National Library staff with a developmental opportunity and the OMS with additional staff capabilities.

ARL/OMS *Conference Showcase Booths.* Plans are underway for the June 1989 Library Showcase at the ALA Annual Conference in Dallas. The theme of this year's exhibit is "Innovation Achieved by Research Libraries." Three multimedia exhibits will be presented. Programs to be exhibited include:

> Washington State University's NEH funded Core Curriculum Project, which links a one-of-a-kind World Civilizations Course, English Composition, Library Research Skills, and library media;
>
> Iowa State University's celebration of the 100th anniversary of Bibliographic Instruction. The exhibit includes 15 editions of the Library Instruction Manual, sample quizzes, video tapes used in instruction, and educational objectives for the program; and,
>
> The University of Illinois at Chicago's campus-wide electronic network. The system will be accessed in real time through dial access and will be available at the Showcase for hands-on use.

The North American Collections Inventory Project (NCIP). NCIP is operating on a cost recovery basis. Current efforts are directed toward ensuring ongoing project participation by libraries that have begun Conspectus evaluations as well as providing training, resources, and project documentation to new participants. The work of worksheet development and revisions continues and the OMS continues its cooperative efforts with RLG in those activities. In addition, OMS is coordinating non-RLG ARL libraries Conspectus data entry into the Conspectus online.

Future activities in the project include maintaining basic NCIP support services for current and new participants, continuing NCIP NEWS and the NCIP Users' Group, distributing the microcomputer-based Conspectus system being developed at the University of North Carolina to participants, considering possible demonstration projects utilizing the Conspectus for cooperative activities in the areas of collection development and preservation, and considering the ramifications of increased use of the Conspectus internationally.

Video Rental Program. OMS has launched a video rental program in response to expressions of interest from personnel and staff development officers in ARL libraries. The program is a vehicle for libraries to have access to management videos of interest to them at a cost savings. Our goal is to acquire at least one copy of those videos most needed by subscribers, with an initial collection of ten videos.

After paying the initial start-up fee ($350 for ARL Members, $410 for non-members) libraries pay $15/video to cover the cost of postage and handling. Libraries also pay a $100 renewal fee ($120, non-ARL members) each year. This money will be used to either purchase new videos or additional copies of popular titles.

Libraries will be able to begin borrowing videos May 15, 1989.

B. **Academic Library Program** (activities related to conducting institutional studies and consultations at ARL member libraries).

During this period, several projects were in various stages of operation:

- Preservation Planning Program Studies: University of Florida; National Agricultural Library Special Consultation; SUNY-Buffalo; University of Southern California.
- Public Services Studies: University of Pittsburgh
- Collection Analysis Project: Wake Forest University
- Leadership Development Programs: University of Cincinnati

C. Systems and Procedures Exchange Center

Research and Publications Completed:

QUICK-SPEC Surveys Completed. Four ARL members have requested QUICK-SPEC surveys on the following topics: (1) Fee-Based Services; (2) Audio, Video, and Film Facilities; (3) Serials Check-in; (4) Research Library Directorships - regarding the educational and work-experience backgrounds of major research and academic library directors. Tallies of the surveys are sent to all libraries responding to the survey. Other interested ARL members can request copies for a minimal charge.

SPEC Kits Completed. The following SPEC Kits have been completed and mailed to subscribers: Serials Controls Projects; User Surveys; Electronic Mail; Building Security and Personal Safety; Qualitative Collection Analysis--The Conspectus Methodology; and Brittle Books Programs.

Other SPEC Publications Completed. Toward Telecommunications Strategies in Academic and Research Libraries -- 10 Case Studies; *Qualitative Evaluation Methods for Reference Services: An Introductory Manual*; The *1988 Automation Inventory of Research Libraries*, published in November 1988, features an expanded analysis that examines trends and vendor changes over the past two years. The *Resource Notebook* and the *Manual* for the Preservation Planning Program are popular among ARL members and other libraries, and both of these publications have been reprinted.

Upcoming SPEC Publications:

SPEC Kit Topics. Remote Storage; Authority Control; Online Search Services; Visiting Scholars; Environmental Conditions; CD-ROM; Artificial Intelligence/Expert Systems; User Fees/Services.

Other SPEC Publications. Alternative Strategies for Strengthening the Library's Fundraising and Development Capability; Interlibrary Loan in Academic and Research Libraries: Workload and Staffing; Staff Turnover; and 1989 Automation Inventory of Research Libraries.

List of Liaisons Available. SPEC has created a list of SPEC Liaisons located at ARL libraries which includes their telephone numbers, ALANET electronic mail numbers, and FAX numbers.

D. The Training and Staff Development Program

During this period the following training events were conducted:

- A sponsored Advanced Management Skills Institute was held at the University of Nebraska-Lincoln, September 25-30.

- A public Advanced Management Skills Institute was held in Charleston, SC, November 6-11.

- A sponsored Basic Management Skills Institute was held at the University of Arizona-Tucson, November 15-18.

- A public Analytical Skills Institute was held in Austin, TX, November 29-December 2.

- A public Creativity to Innovation Workshop was held in Washington, DC, December 7-9.

- A sponsored Basic Management Skills Institute was held at Howard University, January.

- A sponsored Advanced Management Skills Institute was held at Emory University, February 12-17.

- A sponsored Basic Management Skills Institute was held at the University of Florida, February 27-March 2.

- A sponsored Advanced Management Skills Institute was held for the University of Alberta, April 21-26.

In December 1988, the Creativity to Innovation Workshop was presented for the first time. Eighteen participants from member libraries looked at barriers to creativity, creative problem-solving, and ways of fostering innovation in our organizations. The workshop will be presented three times in 1989: twice on a sponsored basis and once as a public Institute in New Orleans, November 8-10. Elements of the workshop have been adapted for several shorter presentations.

A Preservation Consultants Workshop was held in Washington, DC, March 5-10. Sixteen preservations specialists attended the NEH-sponsored event, designed to develop a core group of preservation consultants to work with ARL's Preservation Planning Program. The workshop focused on influencing skills, problem-solving techniques, and working with clients.

The Office of Management Services will be presenting an Institute for Assistant/Associate Directors in ARL Libraries September 26-29, at a conference center in Safety Harbor, Florida. It will look at creative problem-solving, shaping organizational culture, and the effective use of groups in our organizations.

The Resource Management Institute, financial skills for librarians, scheduled for October has been rescheduled for December 5-8, 1989, in Scottsdale, AZ.

The schedule of public Institutes remaining in 1989 includes:

Basic Management Skills Institutes:
  May 16-19, Minneapolis, MN
  June 12-15, Knoxville, TN
  October 3-6, Baltimore, MD

Advanced Management Skills Institute
  Oct. 29-Nov. 3, Denver, CO

Analytical Skills Institute:
  June 6-9, Detroit, MI

Managing the Learning Process
  August 1-4, Eugene, OR

Creativity to Innovation
  Nov. 8-10, New Orleans, LA

Resource Management:
  December 5-8, Scottsdale, AZ

VI. FEDERAL RELATIONS AND INFORMATION POLICY DEVELOPMENT

A. Summary of Activities

A variety of activities were undertaken to communicate the following ARL stands during this period:

Support for: increased federal role and funding for the NEH Office of Preservation; Library of Congress preservation activities (including an increase in preservation microfilming and quick availability of the LC developed DEZ process at reasonable prices); a Congressional resolution on permanent paper; Congressional review of policies on electronic dissemination of government information; remote public access to a Federal Maritime Commission database; and funding for the Library of Congress, the GPO, NEH, and HEA.

Opposition to: OMB information policies; Commerce policies on dissemination; FBI inquiries on the use of libraries; and, the Library Improvement Act as a substitute for present library programs.

MAJOR INITIATIVES

Permanent Paper Policy. ARL has been an active participant in encouraging and promoting Congressional adoption of a resolution encouraging publisher use of permanent paper. ARL Briefing Package No. 3 has been effectively used in making visits to congressional offices to promote the legislation. ARL, ALA, and NHA staff met with the GPO Acting Public Printer and the Superintendent of Documents and, on another occasion, with staff of the Joint Committee on Printing to ask for their support for strategies to get U.S. government publications printed on permanent paper. The legislation shows promise of successful passage and has already served to heighten the awareness within the Government about preservation of printed resources and the federal role in support of this effort.

On related matters, ARL staff have served as points of contact for Congressional interest in identification of research needed to be undertaken in order to advance preservation strategies, and on selection patterns employed by libraries in preservation programs.

OMB Information Policies. ARL has played a significant role in focusing public, press, and congressional attention on the negative impact of OMB information policies. Through active outreach to the library, scholarly, and commercial sector, ARL achieved a short term goal: placing proposed OMB policies on hold pending a thorough review of Circular A-130. The task ahead is to address the longer term goal of shaping this review to achieve information policies that support and enhance public availability of government information.

B. Tactics

Tactics employed included testimony before Congressional committees, visits to staff of Congressional committees, use of the ARL Legislative Contact Network to generate member letters and calls, ARL staff letters and calls, and reliance on Visiting Program Officers to assist in this arena.

Testimony on behalf of ARL was presented by Marilyn Sharrow (on LC budget), Kaye Gapen (joint witness with ALA on GPO budget), and Sidney Verba (joint witness with the National Humanities Alliance and CPA on the NEH budget). Kaye Gapen and Nancy Cline joined ARL and ALA staff for Congressional office visits on government information issues. ARL staff also met with OMB staff and with representatives of a wide variety of public interest, scholarly, and for-profit organizations. And finally, ARL orchestrated a joint letter by major library associations (ARL, ALA, SLA, and AALL) on funding for the Government Printing Office.

The ARL Legislative Contact Network was activated on two matters during this reporting period: (1) support for congressional adoption of a policy on permanent paper; and (2) opposition to OMB information policies and a call for congressional review of the impact of these policies on public availability of US government information. Response to ARL requests for contacts with federal legislators was quick, impressive in volume, and effective in registering the interest and positions of ARL libraries. The network is being updated for the current Congress.

Three ARL Visiting Program Officers began projects with ARL staff on topics in this general arena.

ARL Institute on National Information Policy. To expand the number of people from academic and research institutions engaged in discussions of national library and information policies, ARL is developing a proposal for a Washington-based model institute. The project is the result of Penn State's Visiting Program Officer Diane Smith's tenure at ARL.

HEA II-C Review. Brown University's Visiting Program Officer, Samuel A Streit, has begun a study on behalf of ARL to assess the impact of 10 years of the HEA II-C program.

OMB Information Policies. Yale's Visiting Program Officer Sandra Peterson is assisting with development of recommendations for changes in OMB information policy statements and the Paperwork Reduction Act.

C. Government Policies Committee

The Committee has consulted with ARL staff during this period for questions arising about ARL policies. In February, Ellen Hoffmann was appointed to assist in the identification of issues addressed by this committee that are relevant to Canadian member concerns and to develop a means to expand on ARL's efforts with regard to these issues in Canada.

D. Federal Grant Opportunities

ARL supplies U.S. members with information about federal programs offering grants in support of research library activities. In this period, application and deadline information for the HEA II-C and II-D programs, and the NEH Office of Preservation programs, was provided.

E. Other Activities

Other ARL activities in this area include monitoring legislative interest and participating in meetings on an array of issues including software and copyright legislation, CCC model license for universities, legislation to establish a national research and education network, amendments to FOIA, and reauthorization of the Paperwork Reduction Act.

VII. RELATIONS WITH SCHOLARLY COMMUNITY

Activities during this period included ARL Executive Director participation in the National Humanities Alliance and his election to the board of directors of NHA. The Executive Director also joined in the discussions of the CLR Research Library Committee meeting in December. The continuing working relationship with the American Council of Learned Societies and the American Association of Universities was maintained.

The Librarian of Congress, James Billington, met with the ARL Board of Directors in February 1989 to discuss budget and organizational plans. ARL staff meet regularly with the librarian and his staff to monitor developments.

In addition to these efforts, ARL continues to participate in the Library of Congress Network Advisory Committee (NAC) meetings with Bill Studer, Ohio State Libraries, and Prue Adler, ARL Communication Officer, representing ARL interests and concerns. ARL sponsored National Net '89 and ARL staff participated in EDUCOM's Telecommunications Task Force (NTTF) discussions of the design and development of a national telecommunications research network.

VIII. ACCESS TO SCHOLARLY INFORMATION
PROJECTS AND COMMITTEES

This capability is related to establishing, funding, and managing selected projects to achieve the ARL mission of enhancing access to scholarly information resources. There are three major access projects underway.

National Register of Microform Masters (NRMM) Recon Project. Effective June 1989, the Computer Company, TCC, the contractor for ARL's NRMM Recon Project, has terminated the contract for converting the monographic reports in the NRMM Master File. TCC's management has decided to consolidate the company's information processing services, and to discontinue its library operations. ARL and TCC have agreed to termination provisions that will ensure orderly close-out of the TCC contract and will indemnify ARL for the added costs resulting from TCC's decision. ARL and the Library of Congress began the rebidding process in March, while TCC continues to process records. Between March 1 and April 30, TCC plans to deliver approximately 28,000 records to the Library of Congress for quality control. This will bring the number of records converted by TCC to approximately 60,000. These records will be distributed by LC's Cataloging Distribution Service by mid-summer. It is anticipated that the time period between the termination of the TCC contract in June and the start-up of a new contract will be minimal. Despite the extension of the original schedule, ARL is strongly committed to completion of this project.

B. *Serials Prices Project.* After a year-long study, ARL has received two final reports on serials prices form Economic Consulting Services, Inc. (ECS) and Ann Okerson. ARL commissioned these studies in the spring of 1988 in response to what has been widely regarded as a crisis affecting research libraries' ability to serve the information needs of the scholarly community.

The ECS report tracks prices of over 150 serial titles against publishing costs from 1973 through 1987. The serial titles are drawn from the output of four commercial publishers: Pergamon Press from the United Kingdom, Springer-Verlag from West Germany, Elsevier from The Netherlands, and Plenum Publishers from the United States. The ECS study contributes country-based estimated publishing cost indexes to the understanding of the issue and provides a basis for judging the appropriateness of price increases.

The Okerson report provides a comprehensive review of the serials prices problem and concludes with a series of specific recommendations within three broad categories. The first category includes actions which ARL can consider to assist libraries in dealing directly with the issue through local and/or cooperative library actions. The second category includes actions directed toward introducing and fostering greater competition to the commercial publishers of scientific, technical, and medical journals. The third category includes actions directed toward introducing and fostering greater competition to the commercial publishers of scientific, technical, and medical journals. The third category includes actions directed toward reducing the amount of information published and distributed through the scientific journal by working with scholars to influence the ways in which the scholarly and academic communities operate peer review systems.

North American Collections Inventory Project: This project is administered by the Office of Management Services. See p. 6 for status report.

IX. INTERNATIONAL RELATIONS

This capability covers monitoring activities, maintaining selected contacts, identifying developments on issues of importance to American research libraries, and sharing experience of North American research libraries that may contribute to development of research libraries internationally.

ARL met in England with SCONUL as part of a joint meeting as described elsewhere. As the result of discussions held at this meeting and subsequently at the British Library, several joint UK/ARL projects are being considered. First an invitation was extended by ARL to SCONUL to sponsor a joint meeting in North America as part of the regular fall ARL meeting schedule. Second, options for joint action over serials prices will be considered as part of the outgrowth of the ARL study of the problem. Third, a formal program of senior staff exchanges is being developed and funding sources are being explored.

X. GENERAL ADMINISTRATION

At midyear 1988, a balanced budget for 1989 was developed with the assistance of the ARL Executive Committee. Subsequently, the ARL Board of Directors and the membership approved a dues increase of 13.4% in order to achieve this balanced budget.

At the end of the year, an audit of ARL's financial systems reported total expenditures for the Executive Office and the Office of Management Services of $1.4 million and a surplus of $1,100. The fund balance at the end of 1988 was $152,000, up slightly from 1987. Dues generated revenue was $735,000, or roughly 5.3% of total expenditures. The Executive Office and the Office of Management Services each attracted roughly $120,000 of external grants to support project activities and the remaining revenue was secured through sale of services and publications, mainly by the OMS. The full audited financial report will be issued as part of the Minutes from the May 1989 meeting.

At the beginning of 1989, the Association changed from a modified cash basis accounting policy to an accrual basis.

Several staff changes were made during this period. Prudence S. Adler was names ARL Communications Officer effective January 30, 1989. She is responsible for the design and operation of a communication program to convey Association positions on policy matters to members and the larger scholarly community. Ms. Adler comes to ARL from the Congressional Office of Technology Assessment where she has served most recently as Assistant Project Director in the OTA Communications and Information Technologies Program. In February, Maxine K. Sitts, Information Services Specialist for the Office of Management Services, left the OMS to accept a position as Program Officer with the Commission on Preservation and Access. Efforts were started to recruit a replacement for Ms. Sitts.

With the new year, a series of ARL senior staff visits to ARL member libraries was instituted. Following the pattern established by former Executive Director, Shirley Echelman, ARL staff will accept invitations to visit member institutions and discuss research library issues and prospects with library staff and other pertinent constituencies.

APPENDIX E

ATTENDANCE AT 114th MEMBERSHIP MEETING

Providence, Rhode Island
May 10-12, 1989

MEMBER INSTITUTIONS

University of Alabama Libraries
    Charles B. Osburn

University of Alberta Library
    John Teskey

University of Arizona Library
    Sara Heitsu

Arizona State University Library
    William G. Potter

Boston Public Library
    Arthur Curley

Boston University Library
    John Laucus

Brigham Young University Library
    Not Represented

University of British Columbia Library
    Douglas N. McInnes

Brown University Library
    Merrily E. Taylor

University of California, Berkeley Library
    Joseph A. Rosenthal

University of California, Davis Library
    Marilyn J. Sharrow

University of California, Irvine Library
    Calvin J. Boyer

University of California, Los Angeles Library
    Russell Shank

University of California, Riverside Library
    James Thompson

University of California, San Diego Library
    Dorothy Gregor

University of California, Santa Barbara Library
    Cecily Johns

Canada Inst. for Scientific & Technical Info.
    Elmer V. Smith

Case Western Reserve University Libraries
    Susan J. Coté

Center for Research Libraries
    Donald B. Simpson

University of Chicago Library
    Martin D. Runkle

University of Cincinnati Libraries
    Linda B. Cain

University of Colorado Library
    James F. Williams II

Colorado State University Library
    Joan Chambers

Columbia University Libraries
    Elaine F. Sloan

University of Connecticut Library
    Norman D. Stevens

Cornell University Libraries
    Not Represented

Dartmouth College Libraries
Margaret A. Otto

University of Delaware Library
Susan Brynteson

Duke University Libraries
Jerry D. Campbell

Emory University Library
Joan I. Gotwals

University of Florida Libraries
Dale Canelas

Florida State University Library
Charles E. Miller

Georgetown University Library
Joseph E. Jeffs

University of Georgia Libraries
Bonnie J. Clemens

Georgia Institute of Technology Library
Not Represented

University of Guelph Library
Not Represented

Harvard University Library
Sidney Verba

University of Hawaii Library
John R. Haak

University of Houston Libraries
Robin N. Downes

Howard University Libraries
Not Represented

University of Illinois at Chicago Library
Beverly P. Lynch

University of Illinois at Urbana Library
David F. Bishop

Indiana University Libraries
Carolyn A. Snyder

University of Iowa Libraries
Sheila D. Creth

Iowa State University Library
Warren B. Kuhn

Johns Hopkins University Library
Johanna Hershey

University of Kansas Library
James Ranz

University of Kentucky Libraries
Paul A. Willis

Kent State University Libraries
Don Tolliver

Laval University Library
Claude Bonnelly

Library of Congress
Ellen Hahn

Linda Hall Library
Not Represented

Louisiana State University Library
Not Represented

McGill University Library
Eric Ormsby

McMaster University Library
Graham R. Hill

University of Manitoba Libraries
Earl C. Ferguson

University of Maryland Library
H. Joanne Harrar

University of Massachusetts Libraries
Richard J. Talbot

Massachusetts Inst. of Technology Librs.
Jay K. Lucker

University of Miami Library
Frank D. Rodgers

University of Michigan Library
Carla J. Stoffle

Michigan State University Library
Richard E. Chapin

University of Minnesota Libraries
Not Represented

University of Missouri Library
Thomas W. Shaughnessy

National Agricultural Library
Joseph H. Howard

National Library of Canada
Marianne Scott

National Library of Medicine
Not Represented

University of Nebraska-Lincoln Libraries
Kent Hendrickson

Newberry Library
Charles T. Cullen

University of New Mexico Library
Robert E. Migneault

New York Public Library
Paul Fasana

New York State Library
Jerome Yavarkovsky

New York University Libraries
Carlton C. Rochell

University of North Carolina Library
Joe A. Hewitt

North Carolina State University Library
Susan K. Nutter

Northwestern University Libraries
John P. McGowan

University of Notre Dame Libraries
Robert C. Miller

Ohio State University Libraries
William J. Studer

University of Oklahoma Library
Sul H. Lee

Oklahoma State University Library
Sheila Johnson

University of Oregon Library
George W. Shipman

University of Pennsylvania Libraries
Paul H. Mosher

Pennsylvania State University Library
Nancy Cline

University of Pittsburgh Libraries
H. David Brumble

Princeton University Library
Donald Koepp

Purdue University Library
Emily R. Mobley

Queen's University Library
Margot B. McBurney

Rice University Library
Samuel Carrington

University of Rochester Libraries
James F. Wyatt

Rutgers University Library
Joanne R. Euster

University of Saskatchewan Library
Paul Wiens

Smithsonian Institution Libraries
Vija Karklins

University of South Carolina Libraries
C. J. Cambre, Jr.

University of Southern California Library
Philip Tompkins

Southern Illinois University Library
Kenneth G. Peterson

Stanford University Libraries
David C. Weber

State Univ. of New York at Albany Libraries
Meredith Butler

State Univ. of New York at Buffalo Libraries
Barbara von Wahlde

State Univ. of New York at Stony Brook Librs.
Donald C. Cook

Syracuse University Library
David H. Stam

Temple University Library
James Myers

University of Tennessee Libraries
Paula T. Kaufman

University of Texas Libraries
Harold W. Billings

Texas A & M University Library
Irene B. Hoadley

University of Toronto Libraries
Carole Moore

Tulane University Library
Philip E. Leinbach

University of Utah Libraries
Roger K. Hanson

Vanderbilt University Library
Malcolm Getz

Virginia Polytechnic Inst. & State Univ.
Paul M. Gherman

University of Virginia Libraries
Ray Frantz

University of Washington Library
Charles E. Chamberlin

Washington State Universities Library
Maureen Pastine

Washington University Libraries
Shirley Baker

University of Waterloo Library
Not Represented

Wayne State University Libraries
Peter Spyers-Duran

University of Western Ontario Library
Dale Bent

University of Wisconsin Libraries
Jennifer A. Younger

Yale University Libraries
Jack A. Siggins

York University Libraries
Ellen Hoffmann

NAME INDEX

MEMBERS

Baker, Shirley	Washington University Libraries
Bent, Dale	University of Western Ontario Libraries
Billings, Harold W.	University of Texas Libraries
Bishop, David	University of Illinois at Urbana Library
Bonnelly, Claude	Laval University Library
Boyer, Calvin J.	University of California, Irvine Library
Brumble, H. David	University of Pittsburgh Libraries
Brynteson, Susan	University of Delaware Library
Butler, Meredith	State University of New York at Albany Libraries
Cain, Linda B.	University of Cincinnati Libraries
Cambre, C. J., Jr.	University of South Carolina Libraries
Campbell, Jerry D.	Duke University Libraries
Canelas, Dale	University of Florida Libraries
Carrington, Samuel	Rice University Library
Chamberlin, Charles E.	University of Washington Library
Chambers, Joan	Colorado State University Library
Chapin, Richard E.	Michigan State University Library
Clemens, Bonnie J.	University of Georgia Libraries
Cline, Nancy	Pennsylvania State University Library
Cook, Donald C.	State University of New York at Stony Brook Libraries
Coté, Susan J.	Case Western Reserve Libraries
Creth, Sheila D.	University of Iowa Libraries
Cullen, Charles T.	Newberry Library
Curley, Arthur	Boston Public Library
Downes, Robin N.	University of Houston Libraries
Euster, Joanne R.	Rutgers University Library
Fasana, Paul	New York Public Library
Ferguson, Earl C.	University of Manitoba Libraries
Frantz, Ray	University of Virginia Libraries
Getz, Malcolm	Vanderbilt University Library
Gherman, Paul M.	Virginia Polytechnic Inst. and State Univ. Library
Gotwals, Joan I.	Emory University Library
Gregor, Dorothy	University of California, San Diego Library
Haak, John R.	University of Hawaii Library
Hahn, Ellen	Library of Congress
Hanson, Roger K.	University of Utah Libraries
Harrar, H. Joanne	University of Maryland Library
Heitsu, Sara	University of Arizona Library

Hendrickson, Kent	University of Nebraska-Lincoln Libraries
Hershey, Johanna	Johns Hopkins University Library
Hewitt, Joe A.	University of North Carolina Library
Hill, Graham R.	McMaster University Library
Hoadley, Irene B.	Texas A & M University Library
Hoffmann, Ellen	York University Libraries
Howard, Joseph H.	National Agricultural Library
Jeffs, Joseph E.	Georgetown University Library
Johns, Cecily	University of California, Santa Barbara Library
Johnson, Sheila	Oklahoma State University Library
Karklins, Vija	Smithsonian Institution Libraries
Kaufman, Paula T.	University of Tennessee Libraries
Koepp, Donald	Princeton University Library
Kuhn, Warren B.	Iowa State University Library
Laucus, John	Boston University Libraries
Lee, Sul H.	University of Oklahoma Library
Leinbach, Philip E.	Tulane University Library
Lucker, Jay K.	Massachusetts Inst. of Technology Libraries
Lynch Beverly P.	University of Illinois at Chicago Library
McBurney, Margot B.	Queen's University Library
McGowan, John P.	Northwestern University Libraries
McInnes, Douglas	University of British Columbia Library
Migneault, Robert L.	University of New Mexico Library
Miller, Charles E.	Florida State University Library
Miller, Robert C.	University of Notre Dame Libraries
Mobley, Emily R.	Purdue University Library
Moore, Carole	University of Toronto Libraries
Mosher, Paul H.	University of Pennsylvania Libraries
Myers, James	Temple University Library
Nutter, Susan K.	North Carolina State University Library
Ormsby, Eric	McGill University Libraries
Osburn, Charles B.	University of Alabama Libraries
Otto, Margaret A.	Dartmouth College Libraries
Pastine, Maureen	Washington State University Libraries
Peterson, Kenneth G.	Southern Illinois University Library
Potter, William G.	Arizona State University Library
Ranz, James	University of Kansas Library
Rochell, Carlton C.	New York University Libraries
Rodgers, Frank	University of Miami Library
Rosenthal, Joseph A.	University of California, Berkeley Library
Runkle, Martin D.	University of Chicago Library
Scott, Marianne	National Library of Canada
Shank, Russell	University of California, Los Angeles Library
Sharrow, Marilyn J.	University of California, Davis Library

Shaughnessy, Thomas W.	University of Missouri Library
Shipman, George W.	University of Oregon Library
Siggins, Jack A.	Yale University Libraries
Simpson, Donald B.	Center for Research Libraries
Sloan, Elaine F.	Columbia University Libraries
Smith, Elmer, V.	Canada Institute for Scientific and Technical Information
Snyder, Carolyn A.	Indiana University Libraries
Spyers-Duran, Peter	Wayne State University Libraries
Stam, David H.	Syracuse University Libraries
Stevens, Norman D.	University of Connecticut Library
Stoffle, Carla J,	University of Michigan Library
Studer, William J.	Ohio State University Libraries
Talbot, Richard J.	University of Massachusetts Libraries
Taylor, Merrily E.	Brown University Library
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von Wahlde, Barbara	State University of New York at Buffalo Libraries
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Wiens, Paul	University of Saskatchewan Library
Williams, James F.	University of Colorado Library
Willis, Paul A.	University of Kentucky Libraries
Wyatt, James F.	University of Rochester Libraries
Yavarlovsky, Jerome	New York State Library
Younger, Jennifer A.	University of Wisconsin Libraries

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Adler, Prudence	Program Officer
Barrett, Jaia	Program Officer
Daval, Nicola	Program Officer
Gardner, Jeffrey J.	Director, Office of Management Services
Jurow, Susan	Program Officer, Office of Management Services
MacInnes, Rhonda	Visiting Program Officer, Office of Management Services
McConnell, Margaret	Administrative Assistant
Reed-Scott, Jutta	Program Officer

GUESTS

Armstrong, Scott	National Security Archive
Avram, Henriette, D.	Library of Congress
Battin, Patricia	Commission on Preservation and Access
Catlin, Karen	IRIS, Brown University
Chang, Lawrence	National Security Archives
DeCandido, GraceAnne	*Library Journal*
DiPrete, Edward I.	Governor of Rhode Island
Diwan, Arif	Computer Information Service, Brown University
Farr, George F., Jr.	National Endowment for the Humanities
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Galvin, Thomas J.	American Library Association
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Iannuzzi, Patricia	CLR Intern - University of California, Berkeley
Katz, Stanley N.	America Council of Learned Societies
King, Kenneth M.	EDUCOM
Martin, Susan K.	National Commission on Libraries and Information Services
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Merrill-Oldham, Jan	University of Connecticut Library
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Watstein, Sarah	CLR Intern - University of Connecticut
Wolfe, Paul	National Security Archive
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Zidar, Judith	National Agricultural Library

APPENDIX F

OFFICERS, BOARD OF DIRECTORS, COMMITTEES AND TASK FORCES

MAY 1989

ARL OFFICERS AND BOARD FOR 1988-89

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Martin Runkle, Vice President & President-Elect	
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D. Kaye Gapen	(Oct. 1987-Oct. 1990)
Ellen Hoffmann	(Oct. 1988-Oct. 1991)
Charles Osburn	(Oct. 1988-Oct. 1991)
Carlton C. Rochell	(Oct. 1987-Oct. 1990)
Marilyn J. Sharrow	(Oct. 1987-Oct. 1990)
Thomas W. Shaughnessy	(Oct. 1988-Oct. 1991)
Merrily Taylor	(Oct. 1986-Oct. 1989)

STANDING COMMITTEES AND TASK FORCES

Committee on Government Policies

Susan Brynteson (1989-91)
Paul Gherman (1988-90)
John Haak (1989-91)
Ellen Hoffmann (1989-91)
James Myers (1987-89)
Joseph Rosenthal (1987-89)
Paul Willis (1989-91)
James F. Wyatt (1986-89)
Merrily Taylor (1989-91), Chair (1989-90)

Staff: Jaia Barrett

Committee on Nominations (1989)

David Laird
Margaret Otto
Martin Runkle, ARL Vice President, Chair

Committee on the Management of Research Library Resources

John Black (1988-90)
Jerry D. Campbell (1989-91)
Sheila Creth (1988-90)
Joanne Euster 91989-91)
Maureen Pastine (1987-89)
Thomas W. Shaughnessy (ex officio as Chair of Committee on ARL Statistics)
Peter Spyers-Duran (1987-89)
Jerome Yavarkovsky (1989-91)
Sul H. Lee (1987-89), Chair (1987-89)

Staff: Duane Webster

Committee on ARL Statistics

Dale Canelas (1987-89)
Gordon Fretwell, University of Massachusetts (Consultant)
Joan Gotwals (1989-91)
Kent Hendrickson (1989-91)
Graham Hill (1989-91)
Russell Shank (1989-91)
Kendon Stubbs, University of Virginia (Consultant)
Thomas W. Shaughnessy (1986-88), Chair (1987-88)

Staff: Nicola Daval

Committee on Collection Development

Joseph Boissé (1987-89)
Linda Cain (1989-91)
John Laucus (1989-91)
Paul Mosher (1989-91)
Charles Osburn (1989-91)
William Sittig, Library of Congress Liaison
Mary Jane Starr, National Library of Canada Liaison
James Thompson (1989-91)
Paul Wiens (1989-91)
Susan Nutter (1988-90), Chair (1989-90)

Staff: Jeffrey Gardner

Committee on Bibliographic Control

Henriette Avram, Library of Congress Liaison
Calvin Boyer (1989-91)
Paul Fasana (1988-90)
Jay K. Lucker (1988-90)
Carlton C. Rochell (1989-91)
Marianne Scott (1989-91)
Barbara von Wahlde (1989-91)
Dorothy Gregor (1987-90), Chair (1989-90)

Staff: Jutta Reed-Scott

Committee on Preservation of Research Library Materials

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Paula Kaufman (1989-91)
Donald Koepp (1988-90)
John P. McGowan (1987-89)
Jan Merrill-Oldham (Consultant)
George Shipman (1989-91)
Donald Simpson (1989-91)
Peter Sparks, Library of Congress Liaison
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William Studer, Vice Chair (1989-91)
Carole Moore (1987-90), Chair (1989-90

Staff: Jutta Reed-Scott

Program Committee for Fall 1989 Meeting

Charles Osburn
Martin D. Runkle
Merrily Taylor
Charles Miller, Chair

Staff: Duane Webster

Task Force on Financial Strategies (1989)

Charles Miller
Carlton Rochell
Elaine Sloan
Duane Webster (ex-officio)
David Bishop, Chair

Task Force on Membership of Nonuniversity Libraries (1988-89)

Arthur Curley
Louis E. Martin
Philip E. Leinbach
Elaine F. Sloan, Chair

Staff: Nicola Daval

ADVISORY COMMITTEES

Supporting Collection Preservation Planning in Research Libraries

Jay K. Lucker
Carolyn Morrow, Library of Congress
Margaret Otto
John B. Smith
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Commission On Preservation and Access Advisory Committee	William Studer
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EDUCOM	Duane E. Webster
Eighteenth-Century Short Title Catalogue	Ray Frantz
IFLA Voting Representative	Duane E. Webster
LC Cataloging-in-Publication Advisory Group	George Gibbs, UCLA
LC Network Advisory Committee	Duane E. Webster
National Humanities Alliance	Duane E. Webster
National Information Standards Organization (NISO)	Joanne Harrar
National Institute of Conservators	David Stam
NISO Standards Voting Representative	Duane E. Webster
RLG Conspectus Development Task Force	David Farrell, Indiana
Society of American Archivists	Herbert Finch, Cornell
Universal Serials & Book Exchange	Joanne Harrar

APPENDIX G

MEMBERSHIP OF THE ASSOCIATION

MAY 1989

University of **Alabama** Libraries
P.O. Box S
Tuscaloosa, Alabama 35487-9784
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(205) 348-7561

University of **Alberta** Library
Edmonton, Alberta, Canada T6G 2J8
John Teskey, Acting Librarian
(403) 432-3790

University of **Arizona** Library
Tucson, Arizona 85721
W. David Laird, Librarian
(602) 621-2101

Arizona State University Library
Tempe, Arizona 85281
Donald Riggs, Librarian
(602) 965-3417

Boston Public Library
Copley Square
Boston, Massachusetts 02117
Arthur Curley, Librarian
(617) 536-5400

Boston University Library
Boston, Massachusetts 02215
John Laucus, Director
(617) 353-3710

Brigham Young University Library
324 Lee Library
Provo, Utah 84602
Sterling J. Albrecht, Univ. Libn.
(801) 378-2905

University of **British Columbia** Library
Vancouver, B.C., Canada V6T 1W5
Douglas McInnes, Librarian
(604) 228-2298

Brown University Library
Providence, Rhode Island 02912
Merrily Taylor, Librarian
(401) 863-2162

University of **California** Library, **Berkeley**
Berkeley, California 94720
Joseph Rosenthal, Univ. Librarian
(415) 642-3773

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Marilyn Sharrow, Univ. Librarian
(916) 752-2110

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P.O. Box 19557
Irvine, California 92713
Calvin J. Boyer, University Librarian
(714) 856-5212

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University of **California** Library, **Riverside**
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Riverside, California 92517
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The University Library
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Dorothy Gregor, Univ. Librarian
(619) 534-3061

University of **California, Santa Barbara**
The University Library
Santa Barbara, California 93106
Joseph A. Boissé, Librarian
(805) 961-3256

Canada Institute for Scientific & Technical Information
National Research Council of Canada
Ottawa, Canada K1A OS2
Elmer V. Smith, Director
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Case Western Reserve University Libraries
Cleveland, Ohio 44106
Susan Coté, Director
(216) 368-2990

Center for Research Libraries
6050 South Kenwood Avenue
Chicago, Illinois 60637
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Chicago, Illinois 60637
Martin D. Runkle, Director
(312) 702-8744

University of **Cincinnati** Libraries
Cincinnati, Ohio 45221
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University of **Colorado** Library
Boulder, Colorado 80309
James F. Williams II, Director
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Colorado State University Library
Fort Collins, Colorado 80523
Joan Chambers, Director
(303) 491-1833

Columbia University Libraries
New York, New York 10027
Elaine F. Sloan Vice President for Infor. Services & Univ. Libn.
(212) 280-2247

University of **Connecticut** Library
Storrs, Connecticut 06268
Norman D. Stevens, Director
(203) 486-2219

Cornell University Libraries
Ithaca, New York 14850
Alain Seznec, University Librarian
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Dartmouth College Libraries
Hanover, New Hampshire 03755
Margaret A. Otto, Librarian
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University of **Delaware** Library
Newark, Delaware 19717-5267
Susan Brynteson, Director
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Duke University Libraries
Durham, North Carolina 27706
Jerry Campbell, University Librarian
(919) 684-2034

Emory University Library
Atlanta, Georgia 30322
Joan I. Gotwals, Vice Provost & Director of Libraries
(404) 727-6861

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Gainesville, Florida 32603
Dale Canelas, Director
(904) 392-0342

Florida State University Library
Tallahassee, Florida 32306
Charles E. Miller, Director
(904) 644-5211

Georgetown University Library
Washington, D.C. 20007
Joseph E. Jeffs, Director
(202) 625-4095

University of **Georgia** Libraries
Athens, Georgia 30601
Bonnie J. Clemens, Acting Director
(404) 542-2716

Georgia Institute of Technology
Price Gilbert Memorial Library
Atlanta, Georgia 30332
Miriam Drake, Director
(404) 894-4510

University of **Guelph** Library
Guelph, Ontario, Canada N1G 2W1
John Black, Chief Librarian
(519) 824-4120

Harvard University Library
Wadsworth House
Cambridge, Massachusetts 02138
Sidney Verba, Director
(617) 495-3650

University of **Hawaii** Library
2550 The Mall
Honolulu, Hawaii 96822
John R. Haak, Director
(808) 948-7205

University of **Houston** Libraries
Houston, Texas 77004
Robin Downes, Director
(713) 749-4241

Howard University Libraries
500 Harvard Place, N.W.
Box 1059
Washington, D.C. 20059
Thomas C. BAttle, Acting Director
(202) 636-7234

University of **Illinois** Library
1408 West Gregory Drive
Urbana, Illinois 61801
David Bishop, University Libn.
(217) 333-0790

Indiana University Libraries
Bloomington, Indiana 47405
Carolyn A. Snyder, Acting Dean
of University Libraries
(812) 335-3404

University of **Iowa** Libraries
Iowa City, Iowa 52242
Sheila Creth, Director
(319) 335-5868
Iowa State University Library
Ames, Iowa 50011
Warren B. Kuhn, Dean of Lib. Services
(515) 294-1442

Johns Hopkins University Library
The Milton S. Eisenhower Library
Baltimore, Maryland 21218
Susan K. Martin, Librarian
(301) 338-8325

University of **Kansas** Library
Lawrence, Kansas 66044
James Ranz, Dean of Libraries
(913) 864-3601

University of **Kentucky** Libraries
Lexington, Kentucky 40506
Paul A. Willis, Director
(606) 257-3801

Kent State University Libraries
Room 300
Kent, Ohio 44242
Don Tolliver, Director
(216) 672-2962

Laval University Library
Cité Universitaire
Québec, Canada G1K 7P4
Claude Bonnelly, Director
(418) 656-2008

Library of Congress
Washington, D.C. 20540
James H. Billington, Librarian
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Linda Hall Library
Kansas City, Missouri 64110
Louis E. Martin, Director
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Louisiana State University Library
Baton Rouge, Louisiana 70803
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McGill University Library
3459 McTavish Street
Montreal, Canada H3A lYl
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McMaster University Library
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Hamilton, Ontario, Canada L85 4L6
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University of **Manitoba** Libraries
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University of **Maryland** Library
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Cambridge, Massachusetts 02139
Jay K. Lucker, Director
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National Agricultural Library
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(919) 737-2843

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Paul Wiens, University Libn.
and Director of Libraries
(306) 966-5927

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Constitution Avenue at 10th St., N.W.
Washington, D.C. 20560
Vija Karklins, Acting Director
(202) 357-2240

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Columbia, South Carolina 29208
George Terry, Assoc, Vice President
for Libs. & Collections
(803) 777-3142

University of **Southern California** Library
Los Angeles, California 90089-0182
Charles R. Ritcheson, Librarian
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David C. Weber, Director
(415) 723-2015

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Albany, New York 12222
Meredith Butler, Director
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Buffalo, New York 14260
Barbara von Wahlde, Assoc. Vice President for University Libraries
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Charlottesville, Virginia 22901
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Paul Gherman, Director of Librs.
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Charles Chamberlin, Acting Director
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Pullman, Washington 99163
Maureen Pastine, Director of Libraries
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St. Louis, Missouri 63130
Bernard Reams, Acting Director of Libraries
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Wayne State University Libraries
Detroit, Michigan 48202
Peter Spyers-Duran, Director
(313) 577-4020

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DB Weldon Library
London, Ontario, Canada M6A 3K7
Robert Lee, Director of Libs.
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728 State Street
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D. Kaye Gapen, Director
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Yale University Libraries
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APPENDIX H

ASSOCIATION OF RESEARCH LIBRARIES
WASHINGTON, D.C.
AUDITED FINANCIAL STATEMENTS
YEARS ENDED DECEMBER 31, 1988 AND 1987

A PROFESSIONAL CORPORATION
CERTIFIED PUBLIC ACCOUNTANTS

CANTO, METRO, MEYER & COMPANY
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ASSOCIATION OF RESEARCH LIBRARIES
YEARS ENDED DECEMBER 31, 1988 AND 1987

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CMM

A PROFESSIONAL CORPORATION
CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors
Association of Research Libraries
Washington, D.C.

We have examined the statement of assets and liabilities arising from cash transactions of Association of Research Libraries as of December 31, 1988 and 1987, and the related statement of revenue collected and expenses paid for the years then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in note 1, the Association of Research Libraries' policy is to prepare its financial statements on the basis of cash receipts and disbursements; consequently, certain revenue and the related assets are recognized when received rather than when earned, and certain expenses are recognized when paid rather than when the obligation is incurred. Accordingly, the accompanying financial statements are not intended to present financial position and results of operations in conformity with generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly the assets and liabilities arising from the cash transactions of Association of Research Libraries as of December 31, 1988, and the revenue collected and expenses paid during the year then ended, on the basis of accounting described in note 1, which has been applied in a manner consistent with that of the preceding year.

Canto, Metro, Meyer & Co.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 15, 1989

JCM/spf

ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF ASSETS, LIABILITIES AND FUND BALANCE
(MODIFIED CASH BASIS)

ASSETS

	GENERAL OPERATING FUND	OFFICE OF MANAGEMENT STUDIES	YEAR ENDED DECEMBER 31, 1988	1987
Cash	$ 56,834	$ -0-	$ 56,834	$ 300
Investments, short-term at cost (notes 2 & 3)	328,013	-0-	328,013	528,946
Accounts receivable	23,813	94,968	118,781	91,993
Due to (from) other funds	63,031	(63,031)	-0-	-0-
Prepaid expenses	18,645	-0-	18,645	8,419
Deposits	2,646	-0-	2,646	2,516
Furniture & equipment	135,494	55,765	191,259	174,306
Less: accumulated depreciation	(94,595)	(44,848)	(139,443)	(113,430)
Total	$ 533,881	$ 42,854	$ 576,735	$ 693,550

LIABILITIES AND FUND BALANCES

	GENERAL OPERATING FUND	OFFICE OF MANAGEMENT STUDIES	YEAR ENDED DECEMBER 31, 1988	1987
Unapplied grant income (note 4)	$ 347,135	$ -0-	$ 347,135	$ 365,196
Obligation under capital lease	-0-	-0-	-0-	1,109
Dues paid in advance	-0-	-0-	-0-	6,584
Accounts payable	32,195	-0-	32,195	91,099
Payroll taxes withheld	2,420	-0-	2,420	35,679
Total liabilities	381,750	-0-	381,750	499,667
Fund balances	152,131	42,854	194,985	193,883
Total	$ 533,881	$ 42,854	$ 576,735	$ 693,550

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
STATEMENT OF REVENUE COLLECTED, EXPENSES PAID AND CHANGES IN FUND BALANCE
FOR THE YEAR ENDED DECEMBER 31, 1988
(MODIFIED CASH BASIS)

	CAPABILITIES			GRANTS/SPECIAL PROGRAMS	
	BUDGET	YEAR ENDED DECEMBER 31,		YEAR ENDED DECEMBER 31,	
	1988	1988	1987	1988	1987
Revenue					
Dues	$ 728,500	$ 734,825	$ 680,860	$ 23,800	$ 39,767
Interest	30,000	3,865	8,628	17,302	20,335
Publication	20,000	23,722	18,946	-0-	-0-
Consulting	-0-	-0-	-0-	69,312	36,906
Miscellaneous	1,000	-0-	5	-0-	-0-
Cost recovery	-0-	14,988	25,171	-0-	-0-
	779,500	777,400	733,610	110,414	97,008
Expenses (Schedules - pages 10 & 12)	779,500	768,121	797,245	117,794	75,478
	$ -0-			$ (7,380)	$ 21,530
Excess revenues		9,279	(63,635)		
or (expenditures)		(7,380)	21,530		
Fund balance Beginning of year		150,231	192,336		
Fund balance end of year		$ 152,130	$ 150,231		

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT SERVICES
STATEMENT OF REVENUE COLLECTED, EXPENSES PAID AND CHANGES IN FUND BALANCE
FOR THE YEAR ENDED DECEMBER 31, 1988
(MODIFIED CASH BASIS)

	CAPABILITIES			GRANTS/SPECIAL PROGRAMS	
	BUDGET	YEAR ENDED DECEMBER 31,		YEAR ENDED DECEMBER 31,	
	1988	1988	1987	1988	1987
Revenue					
MSI training	$ 165,000	$ 131,075	$ 166,667	$ -0-	$ -0-
Interest	10,500	-0-	4,442	-0-	7,404
Publication	140,000	145,710	134,104	-0-	-0-
Consulting	54,000	59,215	70,770	120,386	68,200
Cost recovery	42,000	3,873	38,716	-0-	-0-
ARL support	121,500	121,500	121,716	-0-	-0-
	533,000	461,373	536,415	120,386	75,604
Expenses (Schedules - pages 13 & 14)	533,000	462,755	534,058	119,800	79,929
	$ -0-			$ 586	$ (4,325)
Excess revenues		(1,382)	2,357		
or (expenditures)		586	(4,325)		
Fund balance Beginning of year		43,650	45,620		
Fund balance end of year		$ 42,854	$ 43,652		

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF CHANGES IN CASH
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1988	1987
SOURCES OF CASH		
Excess (deficiency) of revenue collected over expenses paid		
General operating fund	$ 9,278	$ (63,635)
Office of Management Studies	(1,382)	2,357
Special programs - ARL	(7,380)	21,530
- OMS	586	(4,325)
Total	1,102	(44,073)
Add item not requiring the outlay of cash - depreciation	26,013	24,244
Cash provided by operations	27,115	(19,829)
Dues collected in advance	(6,584)	6,584
Increase in deposits	(130)	(124)
Increase in payroll taxes withheld	(33,259)	25,088
Increase in accounts payable	(58,904)	79,078
Total	(71,762)	90,797
USES OF CASH		
Prepaid expenses	10,226	6,242
Funding of accounts receivable	26,788	45,181
Reduction in lease obligation	1,109	3,510
Increase in unapplied grant income	18,061	50,480
Purchase of equipment	16,453	29,334
Total	72,637	134,747
Increase (decrease) in cash	(144,399)	(43,950)
Cash, beginning of year	529,246	573,196
Cash, end of year	$ 384,847	$ 529,246

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

The Association of Research Libraries is a non-profit education organization comprised of 119 of the major research libraries in the United States and Canada. The purpose of the Association is to initiate and develop plans for strengthening research library resources and services in support of higher education and research. As part of its activities, the Association also operates the Office of Management Studies.

The Office of Management Studies was established by the Association in 1970. The Office conducts research into organizational problems of research libraries, develops new management techniques, and offers information services and training.

Basis of accounting

The Association's policy is to prepare its financial statements on a modified cash basis. This includes recording depreciation and amortization on capitalized assets, accruing liabilities related to special programs and payroll withholding taxes. Under this basis, revenues are generally recognized when collected rather than when earned and expenditures are recognized when paid rather than when incurred.

Furniture, equipment and depreciation

Furniture and equipment are recorded at cost. Depreciation of furniture and equipment is provided on the straight-line method over the estimated useful lives of the assets.

Income taxes

The Association is exempted from income taxes under Internal Revenue Code Section 501(c)(3) and applicable District of Columbia law.

Retirement plan

The Association has a retirement plan that covers substantially all full-time employees. Contributions to the plan are based on a percentage of salary for enrolled staff members. Total amounts paid in by the Association were $64,121 and $69,325 for 1988 and 1987, respectively.

Leases

The Association leases its office space under an operating lease that expires on December 31, 1991. Total rent and storage charges for the operating lease were $88,710 for 1988 and $85,664 for 1987.

ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
(CONTINUED)

NOTE 2 - CASH

The Board of Directors has authorized restriction of $14,000 of the Association's funds and designated this amount as a program reserve fund. To date, $11,720 remains unspent.

NOTE 3 - INVESTMENTS

The Association's investments are managed by Dean Witter Reynolds, Inc., Fidelity Investments and Northeast Investors. The investments are held as follows:

	COST	MARKET
Dean Witter U.S. Government Securities Trust - current yield - 9.88%	$ 276,578	$ 245,210
Fidelity Investments - current yield - 6.95%	1,435	1,435
Northeast Investors - current yield 12.5%	50,000	43,939
	$ 328,013	$ 290,584

All accounts managed by Dean Witter Reynolds, Inc. may be liquidated on any business day with proceeds payable within two to five business days.

ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
(CONTINUED)

NOTE 4 - UNAPPLIED GRANT INCOME

The following items are classified in this account:

NRMM - NEH Funds	$ 42,163
NRMM - Mellon Funds	293,252
Program Reserve Funds	11,720
	$ 347,135

SUPPLEMENTARY INFORMATION

Our examinations of the financial statements included in the preceding section of this report were directed to an expression of our opinion on those financial statements taken as a whole. The supplementary information included on pages 10 through 14 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 15, 1989

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURE
FOR THE YEAR ENDED DECEMBER 31, 1988

	CAPABILITY							
	ADMINISTRATION	STATISTICS	COMMUNICATION	MEMBERSHIP MEETINGS	GOVERNANCE	MANAGEMENT SERVICES	FED. RELATIONS & INFORMATION POLICY DEVELOPMENT	RELATIONS - SCHOLARLY COMMUNITY
OBJECT OF EXPENDITURES								
Employee cost	$ 120,106	$ 17,534	$ 22,806	$ 26,000	$ 45,943	$ -0-	$ 50,803	$ 15,666
Professional services	34,213	1,820	-0-	-0-	-0-	-0-	-0-	-0-
Travel	14,877	3,861	475	41,437	18,997	5,288	7,027	762
Communications	27,613	741	1,058	1,374	1,340	393	1,180	7
Program support	6,830	7,259	2,630	6,673	366	-0-	921	-0-
Office operation	91,196	79	1,774	288	207	-0-	199	-0-
Miscellaneous	1,827	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Corporate membership	8,683	-0-	-0-	-0-	-0-	-0-	1,269	-0-
Insurance	14,898	-0-	-0-	-0-	-0-	-0-	-0-	-0-
OMS support	-0-	-0-	-0-	-0-	-0-	121,500	-0-	-0-
Total expenses	$ 320,242	$ 31,294	$ 28,742	$ 75,771	$ 66,853	$ 127,180	$ 61,398	$ 16,434

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND (CONTINUED)
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURE
FOR THE YEAR ENDED DECEMBER 31, 1988

	CAPABILITY							
	ACCESS OF SCHOLARLY INFORMATION PROJECTS	PRESERVATOIN COMMITTEE	BIBLIOGRAPHIC CONTROL COMMITTEE	COLLECTION MANAGEMENT COMMITTEE	INTERNATIONAL RELATIONS	TOTAL	BUDGET	YEAR ENDED DECEMBER 31, 1987
OBJECT OF EXPENDITURE								
Employee costs	$ 10,640	$ 8,560	$ 5,828	$ 3,250	$ 5,551	$ 332,686	$ 382,000	$ 377,898
Professional services	-0-	857	-0-	-0-	-0-	36,890	20,000	37,149
Travel	598	956	464	995	142	95,878	91,000	102,984
Communication	6	1,887	332	83	-0-	36,014	24,000	23,005
Program support	-0-	56	-0-	-0-	-0-	24,735	29,000	16,254
Office operation	-0-	-0-	-0-	-0-	-0-	93,742	93,000	98,082
Miscellaneous	-0-	-0-	-0-	-0-	-0-	1,827	-0-	6,910
Corporate membership	-0-	-0-	-0-	-0-	-0-	9,952	6,000	7,561
Insurance	-0-	-0-	-0-	-0-	-0-	14,898	13,000	5,686
OMS support	-0-	-0-	-0-	-0-	-0-	121,500	121,500	121,716
Total expenses	$ 11,244	$ 12,317	$ 6,624	$ 4,328	$ 5,693	$ 768,121	$ 779,500	$ 797,245

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
RECONCILIATION OF EXPENSES BY GRANT OR SPECIAL PROGRAM AND BY OBJECT OF EXPENDITURES
FOR THE YEAR ENDED DECEMBER 31, 1988

	GRANT / SPECIAL PROGRAMS					
	NRMM	SERIAL PRICE PROJECT	MELLON NRMM	ALKALINE PAPER PACKAGE	TOTAL	YEAR ENDED DECEMBER 31, 1987
OBJECT OF EXPENDITURE						
Employee costs	$ -0-	$ 26,806	$ 17,302	$ 4,111	$ 48,219	$ 38,793
Professional services	48,142	6,863	-0-	-0-	55,005	30,494
Travel	3,093	1,624	-0-	-0-	4,716	4,345
Communications	77	1,137	-0-	541	1,755	1,081
Program support	-0-	1,575	-0-	6,473	8,048	-0-
Office operation	-0-	51	-0-	-0-	51	765
Miscellaneous	-0-	-0-	-0-	-0-	-0-	-0-
Corporate membership	-0-	-0-	-0-	-0-	-0-	-0-
Insurance	-0-	-0-	-0-	-0-	-0-	-0-
OMS support	-0-	-0-	-0-	-0-	-0-	-0-
Total expenses	$ 51,312	$ 38,055	$ 17,302	$ 11,125	$ 117,794	$ 75,478

The accompanying letter and notes are an integral part of these financial statements.

ASSIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1988

	CAPABILITY							
OBJECT OF EXPENDITURES	RESEARCH & DEVELOPMENT	ACADEMIC LIBRARY PROGRAM	SPEC	TRAINING MSI	OPERATIONS GRANT MANAGEMENT	TOTAL	BUDGET	YEAR ENDED DECEMBER 31, 1987
Employee costs	$ 3,008	$ 14,636	$ 49,298	$ 46,522	$ 44,221	$ 157,686	$ 263,000	$ 241,072
Professional services	6,825	2,000	4,730	12,173	886	26,615	21,000	24,077
Travel	19,134	10,153	3,541	43,181	13,528	89,537	70,000	87,844
Communications	4,275	1,124	10,811	10,776	5,441	32,426	33,000	34,711
Program support	5,173	46	19,192	21,057	2,070	47,537	82,000	81,649
Office operation	-0-	3,716	24,435	5,696	74,479	108,326	64,000	64,705
Corporate membership	-0-	70	-0-	-0-	408	478	-0-	-0-
Insuarance	-0-	-0-	-0-	-0-	150	150	-0-	-0-
Total expenses	$ 38,415	$ 31,745	$ 112,007	$ 139,405	$ 141,183	$ 462,755	$ 533,000	$ 534,058

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
RECONCILIATION OF EXPENSES BY GRANT OR SPECIAL PROGRAM BY OBJECT OF EXPENDITURE
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1988

	GRANT OR SPECIAL PROGRAM						
	NCIP PROJECT	CLR PROJECT	CANADIAN PROJECT	PRESERVATION PLANNING PRGM	NEH PRESERVATION CONTRIBUTION	TOTAL	DECEMBER 31, 1987 TOTAL
OBJECT OF EXPENDITURE							
Employee costs	$ 39,029	$ 29,260	$ 6,652	$ 8,996	$ 1,852	$ 85,788	$ 50,443
Professional services	22	2,486	-0-	-0-	-0-	2,508	5,140
Travel	5,797	15,728	2,646	-0-	-0-	24,171	6,909
Communications	1,182	771	3	1,199	-0-	3,155	4,787
Program support	683	658	-0-	2,146	-0-	3,488	8,915
Office operation	411	40	-0-	240	-0-	691	3,735
Corporate membership	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Insurance	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Total expenses	$ 47,124	$ 48,942	$ 9,301	$ 12,582	$ 1,852	$ 119,800	$ 79,929

The accompanying letter and notes are an integral part of these financial statements.

Association of Research Libraries
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